

# AMERICAN GAS ASSOCIATION MONTHLY



Vol. VIII

No. 1

JANUARY, 1926

*Plant Improvement Number*

## New Year's Resolution

**R**ESOLVED: That during 1926 I will give my customers as much cause to be proud of the appearance of their gas company and its properties as they have today to be proud of its service.

Where Shall We Go in 1927? See Page 23

# Get Full Benefit from Your Studies

## *Companies Urged to Encourage Completion of A.G.A.-Columbia Home Study Course*

**T**HE Committee on Education of Gas Company Employees of the American Gas Association, sponsoring the Home Study Course on Manufactured Gas offered by Columbia University, recommends the following suggestions to gas companies having employees enrolled in the course:

(a) That a company official assume the job of keeping up the interest of the employees of his company enrolled for the course so that as large a number as possible will satisfactorily complete their studies. A little attention from time to time will do much towards encouraging the students. The committee cannot urge too strongly the necessity of gas company officials manifesting continued interest in employees enrolled in the course.

(b) It is the belief of the committee that local classes composed of employees enrolled for the course, headed by competent leaders and meeting regularly, are advisable. Many gas companies have already organized such groups. These meetings will help the students to prepare the lessons and foster the continued interest of the students in their studies.

Columbia University, upon request, will send to gas companies periodical reports on the progress of employees taking the course.







# AMERICAN GAS ASSOCIATION MONTHLY

342 MADISON AVENUE, NEW YORK, N. Y.

HENRY OBERMEYER

Editor

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## Our Own Who's Who



### VIII

#### ALEXANDER B. MACBETH

**B**ORN, Greenville, S. C., 1873; Graduate Stevens Institute of Technology, 1897, with Degree of Mechanical Engineer; Entered Business in Office of Sturtevant Company of Boston; Cadet Engineer, U. G. I. Company, 1898, Atlanta Gas Company, 1899; Assistant Superintendent, Kansas City Gas Company, 1900; General Manager, Kansas Natural Gas Company, 1910; became Vice-President and General Manager of the Southern California Gas Company and Midway Gas Company of California in 1914, and Executive Vice-President in 1925; President, Natural Gas Association of America, 1911; Vice-President, American Gas Association, 1925.

# AMERICAN GAS ASSOCIATION MONTHLY

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## Teaming Up with Nature

### The Art and Science of Improving the Appearance of Gas Company Property

By HERBERT J. ROBINSON, Brooklyn Union Gas Company

THE mention of gas plants, "gas tanks" or holders to the average citizen who is not familiar with present conditions brings before his eyes a picture of buildings devoid of architectural beauty and the surrounding grounds bare of planting with no well paved walks or careful grading to be seen.

Gas companies of today, however, spend many thousands of dollars yearly painting, with great care, the vast surfaces of their gas holders, not only to protect the metal from exposure, but to bring the appearance of the holder up to a point of attractiveness, erecting neat appearing buildings, ornamental fences, and above all teaming up with nature

in the establishment of well-kept lawns, hedges, trees and flower beds, which invariably appeal to the eye of the observing passerby.

The Brooklyn Union Gas Company has on its payroll gardeners and caretakers whose daily work consists of trimming trees, bushes and hedges; cutting and watering of lawns, raking up and gathering fallen leaves and rubbish; sweeping of sidewalks, and spreading blue stone chips over ground that will not yield grass, but tends to produce weeds.

This company feels the responsibility put upon it when a massive piece of steel work in the shape of a five or ten million cubic foot gas holder is completed and



Figs. 1 and 2. The First Year's Growth of a Lawn of More Than One Acre in Extent. Note Curbing and Cement Walks in Distance.



Figs. 3 and 4. Methods of Screening Off Holder Equipment and Close-Up of Cement Curbing.

turned over to them. We are not only obligated to give the public good gas maintained under constant pressure, but we make every endeavor to prove that their property in the immediate vicinity has not lessened in value owing to the erection of the holder.

It is impossible to enter into a lengthy description of ground improvement, planting, etc., in so short an article, but a few pictures showing the progress made by this company may be of interest.

When the second ten million cubic foot holder at Newtown was completed, there was a great deal of grading to be done on account of the original low elevation of the ground. After this was accomplished, it was decided to cultivate rather than purchase top soil or sod. This has since proved to have been a wise move as the following six photographs will show.

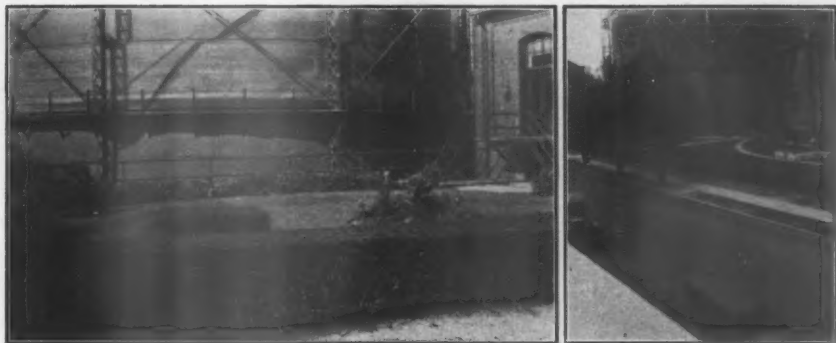
No. 1 is a view of the Grand Street side of the property looking due west from the rear of the resident engineer's house. This photo shows the curbing which borders the cement walks; the standard iron picket fence lined with privet hedge; the maple saplings wired to stakes to assure erect growth and earth loosened up at base for better "drainage"; also the necessary "Keep off the grass" signs.

No. 2 is a view looking westward between the two holders showing shrubbery planted in chosen locations so that, when full grown, it will partly hide from view the adjacent territory. It also shows the first year's growth of a lawn of more than one acre in extent.

No. 3 is a view looking southeast toward No. 1 Holder, which again shows our attempt to screen off the valve stems, hand wheels, drip pumps and vent pipes.



Figs. 5 and 6. "The Walks of Gasville." The Lawn on the Left Is a Product of Last Spring; the Hedge Was Planted Fifteen Years Ago.



Figs. 7 and 8. A Garden Landscape. The Trees on the Right Were Planted About Twelve Years Ago.

In the background on extreme right may be seen a quantity of 6", 8" and 12" C. I. pipe stored in corner of yard. When the shrubbery is full grown, this pipe will be concealed from view.

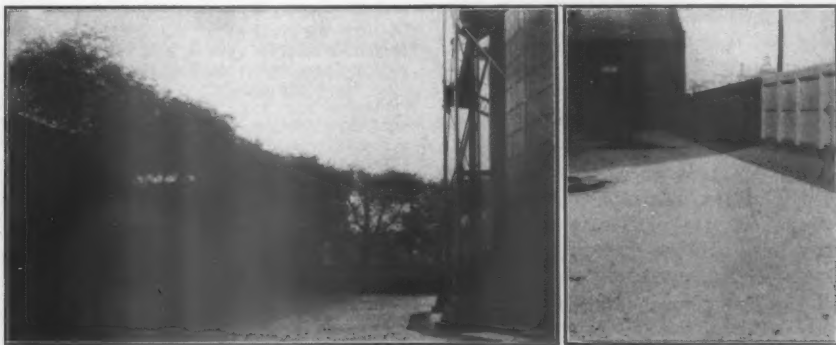
No. 4, left side, illustrates a plan to conceal drip pumps and valves. This shrubbery is one year old and, when full grown, will amply serve the purpose. In the foreground is a section of cement curbing which forms the edge of a driveway.

No. 5 is a view looking west from the exhauster house, and shows in the right foreground a hedge planted 15 years ago, while the hedge just beyond the gate to driveway was set out in May of this year. The driveway runs between No. 3 Holder, built in 1908, and No. 4, erected in 1924, the latter visible in this photo.

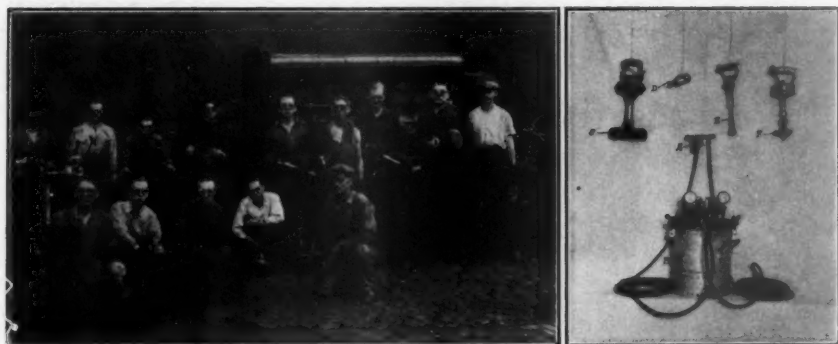
Particular attention is called to this lawn, which was planted this spring and is highly praised by our neighbors who, not long ago, were strongly averse to holder construction in this locality.

No. 6 shows the east driveway looking south from Grand Street. The reader's attention is called to the blue stone chips mentioned above; the cement curb as a border to the driveway; the saplings with their wire stays, and the shrubbery which, in time, will hide from view the houses seen in the left background.

No. 7 shows the garden at our Jamaica Station, which would be better appreciated if the many beautiful colors could be reproduced. From early spring to late fall blossoms and flowers of some kind are in bloom, as variety seems to be the guiding influence of this gardener.



Figs. 9. and 10. Illustrating the Use of Blue Stone Chips to Smother Weeds as Well as to Brighten the Appearance of the Yard.



Figs. 11 and 12. Tools and the Men Who Wield Them to Keep the Gas Plant Spick and Span. A Reasonable Expenditure in This Department Is a Safe and Profitable Investment

No. 8 is a view from the roof of a building directly opposite. This affords a chance to judge our trees which were planted about 12 years ago.

No. 9 is a view of the rear yard of our Third Avenue Station, where a border of swamp willow trees is the pride of a number of our officials. The small pile of blue stone chips shown here is an indication that this yard has just been treated with a generous layer to smother weeds.

No. 10 is a view of our Belmont Station, looking west toward the exhaust house, showing a 6 ft. border of lawn just inside a standard 8 ft. picket fence. The effect of the blue stone chips to brighten up the appearance of yards is again manifested by this photo.

The method of painting gas holders has changed considerably in the past ten years and it is the aim of this company to keep up with the times in securing the best equipment for this work.

No. 11 shows a complete crew of hold-er painters and cleaners equipped with the various kinds of tools. The compressor may be seen in the background showing the siamese connections by which many lines of hose may be served with air at 100 lbs. pressure.

There are many difficulties encountered in maintaining property of this char-

acter which necessitates a reasonable expenditure of money and the intelligent management of a small but well organized force.

No. 12 shows a spray paint gun marked "A", which is connected by rubber tubing to a 5-gallon container marked "B." The other air-driven tools are the revolving brush, "C", the scaler, "D", the chipping hammer, "E", and the emery grinder, "F".

### PURGING MAINS WITH INERT GAS

ONE OF THE LAST PRECAUTIONS taken in opening the new \$3,000,000 gas plant of the Syracuse Lighting Company, Syracuse, N. Y., was to purge all of the mains running through the plant to free them of air and other foreign material. This was accomplished by flushing them with an inert gas which would not explode and cause trouble or delay.

G. I. Vincent, manager of the company, tells us that this method of purging mains is not new, although, he says, it was first used several years ago by W. A. Rich, assistant superintendent of gas production at Syracuse.

"It has been used several times," Mr. Vincent says, "to purge a relief holder on which a repair was necessary. The water gas machines were operated in the usual way except that the gas would be made into one holder, and during the blow the stack valve would be closed and the products of combustion sent in to the relief holder.

"After the relief holder was filled as high as desirable with the inert gas, it was emptied and the process repeated until there was an absolute assurance that there was nothing but inert gas in the holder."



## The Gas Company in Dress Clothes

### Both Employes and Public Take Pride in Sprucing-Up Process

By R. L. FLETCHER, Providence Gas Company



Improvements Like This May Be Made Gradually without Spending Exorbitant Sums of Money.

**D**OES plant appearance pay dividends? The answer is "Yes", although obviously the question must be answered more or less indirectly, as tangible proof of the value of appearance in dollars and cents is hard to get.

If one considers the tendency of the present in respect to living and working conditions, it is quite apparent that the ill looking and unattractive quarters of yesterday are a thing of the past. Is it not reasonable to expect that the average male employe is as much interested in working under favorable and attractive conditions as his wife is in having her home, which is her workshop, clean, presentable and inviting?

Some years ago the Providence Gas Company, feeling that to make improvements in the appearance and the working conditions in general of its manufacturing plant would be a good investment, started gradually to better the appearance of the plant and laid out routine methods of keeping the general conditions cleaner and more attractive.

No great amount of effort, time or money has been expended on this work in any one year. To have concentrated on elaborate improvements would have

been costly, and undoubtedly would not have been so productive in creating interest and pride among the workers as the slower program of development has been. Each year additional loam has been obtained by exchanging ashes for loam or by purchasing loam at reasonable rates from some contractor with a construction job on hand; more shrubs and flowers have been purchased and more intensive efforts have been made on the routine work of cleaning up.

The result to date has been quite satisfactory. There is no question but what the plant employes as a whole appreciate the effort of the management to beautify the plant, nor is there any doubt that the



First Impressions Are Provided For by Well-Kept Offices in Pleasant Surroundings.

average employe is willing to do his share to continually improve the general appearance. That the small investment that has been made is paying dividends is indicated by the following six points:

1. If the equipment is kept cleaner and more presentable, less maintenance is necessary. This is obvious.

2. The employes are pleased, and that their pleasure is reflected in their general attitude towards the company is evidenced by their interest and the suggestions that have been made by many of





This Picture Might Be Labeled "A Pleasant Incongruity." That It IS Pleasing Is the Main Consideration, However.

them. Each foreman is encouraged to keep his department clean to have it compare well with the rest of the plant.

3. Company pride and loyalty is being developed through the interest that is being taken by all departments of the company in the plant appearance.

4. Apparently, because of the attractiveness of the plant, a better class of men apply at our plant for employment.

5. Many of the hundreds of people from the City of Providence who visit the plant are so well pleased and impressed with the appearance of the plant that, as a reaction, community pride is being aroused. Concrete evidence of this are the frequent visits made by the head gardener of the Rhode Island Hospital.

6. The impression that the atmosphere of a gas plant is injurious and undesirable is being dispelled by the sight of tulips, dahlias, marigolds, asters, rambler roses, climbing ivy and shrubs of all kinds.

The gas industry is a positively essential industry to any community. It should require little if any argument to prove that the favorable reaction of the community towards this necessary industry is greatly influenced by the efforts of the management to make the usually dirty and smelly gas-house a source of pride to its immediate neighborhood.

## INDUSTRIAL GAS AT U. OF ILL.

A COURSE in industrial gas engineering will feature next summer's semester of the engineering school of the University of Illinois. A committee of gas engineers from the Illinois Gas Association, headed by A. B. Greenleaf of the Peoples Gas Light & Coke Company of Chicago, will co-operate with Dean Ketcham of the University in the instruction.

The course will extend over three or four weeks and will prepare men to apply gas in wholesale quantities to industrial heating operations. About fifty of the students will come from the largest middle west utilities.

The faculty will comprise professors of the university as well as highly trained specialists from the industrial field. This will be the third time in this country that such a course has been instituted, Boston Tech and Columbia University at present maintaining such training.

ONCE AGAIN we wish to remind our contributors and readers that reprints of any material published in the American Gas Association MONTHLY may be obtained in accordance with the following scale:

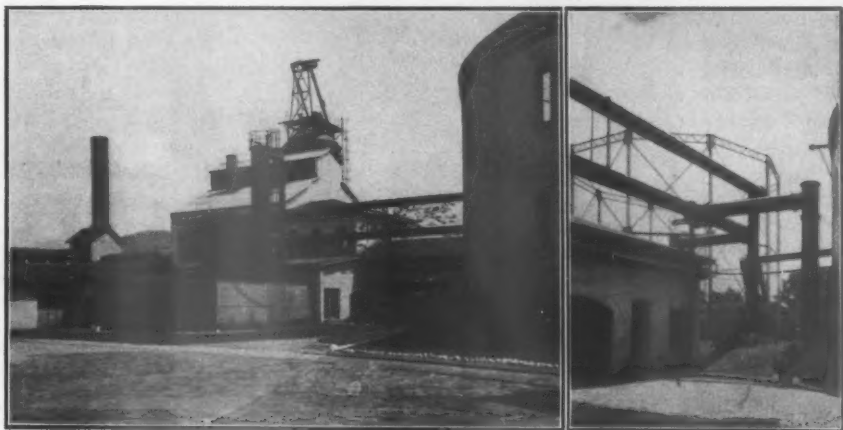
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# Elmira Rendered a "Clean Bill of Health"

## Instincts of a Good Housekeeper Receive Public Commendation

By A. C. JORDAN, Elmira Water, Light and Railroad Company



"A Model of Neatness, Cleanliness and Efficiency" Was the Report on This Plant Brought Back by the Commission's Engineer. A Little Effort Goes a Long Way Here.

ELMIRA Gas Works Built in 1867" is part of the inscription on a tablet shown in the picture on the right, which is a picture of part of the old gas holder, the grasshopper connection, the gas office, and in the background the liquid purifier. We believe that there should be an addition put on this tablet which would read "Greatly Improved Since 1922."

When everyone says that a thing can't be done, someone comes along and does it, and this is what Mr. Williams of the gas plant has done in improving the outside appearance of the buildings as shown in these pictures. For years it has been a legend that no one could make grass grow around the holder. Mr. Williams has not only made grass grow around the holder in very good shape, but he has a number of shrubs and plants growing there too. The pictures do not do justice to the improvement that has been made in this property by the addition of grass, flowers and shrubs.

The picture on the left is a picture showing the gas plant and the washer-

cooler in front of it. The washer-cooler has in the past certainly been a rather unsightly thing to view as one came into the property, but with the ornamental lattice work placed around it with flowers and white rocks, it has certainly changed the appearance of the whole property. We do not believe that there is anywhere in this country a gas plant with the appearance outside or inside that this plant has, which goes to show that Mr. Williams is a good housekeeper.

THE FOLLOWING REPORT by the engineer of the New York State Public Service Commission is eloquent on the subject of plant appearance and its practical good-will value:

From W. N. Henning  
To CHIEF ENGINEER

September 29, 1925.

Re Inspection of Elmira Water, Light and Railroad Company gas plant at Elmira.

An inspection of this plant has been made and all of the equipment was found

to be in good repair and operating very efficiently.

The management is to be commended for the fine condition of the equipment and the attractive appearance of the entire plant. A uniform color scheme of gray with green trim has been adopted for the painting of all buildings and holders. Generators and other equipment are painted a silver bronze. Lawns have been

graded and seeded around the holders, and shrubbery has been planted throughout the yards. This plant is a model of neatness, cleanliness and efficiency.

Respectfully,

W. N. HENNING,

Assistant Engineer.

Approved—October 3, 1925

C. R. VANNEMAN,

Chief Engineer.

## Tudor Castles and Gas Houses

Earl of Dartmouth's Residence Poses for Its Picture in Suburban New York

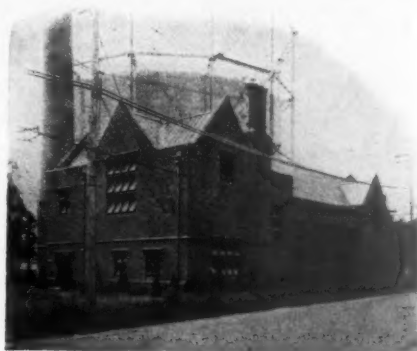
THE problem confronting the Westchester Lighting Company, when it was decided to construct a holder station, boiler and exhauster house on the Tarrytown-White Plains Road, Greenburg, New York, was to provide an attractive building to house the necessary equipment.

An ideal layout of boilers and equipment was made, which determined the shape and dimensions of the building, and resulted in an irregularly shaped structure, one hundred and twenty feet front by fifty feet deep on the easterly or boiler room end, and thirty-five feet deep on the westerly end.

The irregular shape of the plan suggests a Gothic structure and, therefore, the building was designed in the style of the Tudor Period of English Gothic, with arched entrances, mullioned and transomed windows and cooped gables.

In designing this building, the architects have carefully followed precedent, consulting the works of authorities and photographs and sketches of existing buildings. Traces will be found in the building of Haddon Hall, in Derbyshire, South Wraxhall, and of Great Chatfield Manor Houses in Wiltshire, but more particularly of Woodsome Hall, in Yorkshire, which has served as the inspiration for the principal facade.

Woodsome Hall stands in the peaceful township of Farnly Tyas, Yorkshire,



So This Is the Gas House! Showing That Even the Buildings May Lend Themselves to Effective Treatment.

England, not far from the toil and smoke of Huddersfield. From the end of the fourteenth century, Woodsome belonged to the Kayes, whose heiress, early in the eighteenth century, married the elder son of the Earl of Dartmouth, in whose family it has since remained. The oldest part of the existing house, which is the part taken by the architects for their model, was built in the early part of the eighteenth century by Arthur Kaye.

The new building of the Westchester Lighting Company is built of "blown" red brick, with reddish brown terra cotta window, door and gable trim; the window sashes are of steel, glazed with antique glass, and the doors are of heavy oak plank with large ornamental wrought iron hinges; the roof is of copper.

## Beautifying the Customer's Approach

### Work of Improvement Undertaken by Gas Plant Employees

ONE of the accomplishments in the work of dressing up the Geneva, N. Y., gas plant was the building of a circular flower bed in front of the office.

The work was all done by the men who work at the plant, and they are justly proud of the result of their efforts.

The bed was built up above the ground in three tiers of yellow brick, capped by a circular concrete curb. The curb was made in six sections by the plant masons and poured in tin-lined forms. When the hardened concrete was removed from the forms, the surfaces which had come in contact with the tin lining were as smooth as polished stone.



It's a Good Job, and They Admit It. Not the Least Thing About It Is the Fact That They Did It Themselves.

Rich loam was put in the enclosure and rounded up to form an attractive flower bed. Geraniums and cannas were the main plantings in the bed, but it was completed too late in the season to give them a

good start. Next year the "garden", which is the pride of the plant, will get away to an early start.

Many other improvements are planned for the gas plant next spring. Several of the buildings have been whitewashed, and the bank near the siding to the blue gas plant has been graded and seeded. An automobile parking space has been graded near the office, and it is planned to improve the appearance of the driveway from the Waterloo road to the plant.

### THE SILENT WATCHMAN OF SERVICE

SAFEGUARDING SERVICE is one of the precepts of a utility. East of Rochester are the villages of East Rochester, Fairport and Pittsford. These are supplied with gas by the Rochester Gas and Electric Corporation. Contiguous to a six million foot storage holder, located on the eastern edge of the city, is a gas pump or booster, pushing gas out into the artery supplying health and comfort to the suburban communities. The pump is driven by an electric motor.

Electric service may fail with discomfort, but not with serious danger. That is not true with gas. Hence, to protect this gas supply against an electric interruption, 150,000 cubic feet are stored in steel tanks at 150 lbs. pressure. If the electric service fails, the motor stops, hence the pump stops. Immediately a valve, which has been held closed by an electric solenoid, opens by a counterweight, and the gas from the tanks passes through a pressure reducing valve and out into the mains with scarcely a tremor on the pressure chart, and the consumer never guesses that he has been protected again by this silent watchman.

### SMOKELESS COKE OVENS FOR ROCHESTER

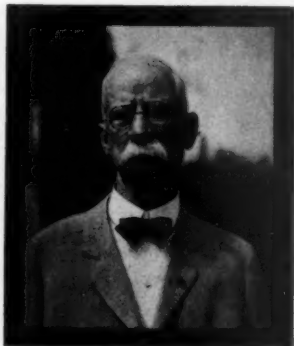
A SMOKELESS COKE OVEN BATTERY is now under construction at Rochester, N. Y., by The Koppers Construction Company for the Rochester Gas and Electric Corporation. To accomplish this, a number of features now used in isolated instances have been combined into a single plant.

A center charging hole for each oven with a gas off-take main on each side of the battery will prevent the usual escape of smoke during the charging and leveling operation. On the pusher side, a large iron ventilating duct extends the length of the battery above the leveling doors. Gates over each leveling door will permit any smoke escaping at that point to be sucked into the ventilating flue, whence it will be discharged into a 225 ft. chimney.

A similar flue likewise connected to the chimney will be installed on the coke side of the battery. Above this latter flue, extending over the quenching car tracks, the flue forming the high point, there will be a shed roof, so that any smoke coming from the hot coke will rise and be drawn into the flue and thence to the chimney.

## George Denny Roper

By EDWARD G. PRATT, Chicago, Illinois



THE passing of George Denny Roper removes from our midst, and from the gas industry, an enterprising and energetic citizen, and a leading manufacturer of gas consuming appliances; one whose place it will be difficult to fill, either in the business world he made for himself, or in the community in which he lived the better part of his business career.

Born at Springfield, Ill., in 1855, forty of his seventy years were spent in the gas industry as a manufacturer. His life had been one of unusual and remarkable experiences. The loss of an arm in infancy did not deter or hinder him from performing and accomplishing in life as much as though such an affliction had never happened—indeed, to him it was not a handicap, and some of his nearest friends have often spoken of it as a business asset.

His early life was spent as were the lives of most boys of that period, for he engaged in any and all the sports which others indulged in and enjoyed, and he performed as well in them as others more favorably blessed.

About the year 1885 he associated himself with Peter Van Wie, whose business was the manufacture of gas stoves in a small way at Cleveland, O., but shortly thereafter they brought their business to Rockford, and established themselves there in a factory of their own under the name of the Eclipse Gas Stove Company. The writer was early convinced of the superiority of the Van Wie stove, and was one of the pioneer purchasers.

Their new venture had hardly more than started when the factory was destroyed by fire, and shortly thereafter Mr. Van Wie retired from the concern, leaving the brunt of the conduct of the company to Mr. Roper. It was his nerve and determination that carried him through. His promise was always good, and his performance better than his promise; and it was this and other traits that attracted to him a host of customers, and they were each and all his friends.

He was generous to a fault, and no one was allowed to need or suffer in his presence.

He was strong for better and improved salesmanship by gas companies, and his voice was frequently raised in opposition to what he considered unbusinesslike practices.

As a result of his methods, the business of the Eclipse Gas Stove Company grew to such an extent that it was necessary to extend and enlarge, the culmination of which was a change of name and the incorporation of the George D. Roper Corporation. This, in a business sense, is his monument.

He was a leader, not alone as a manufacturer, but in his home city his influence extended to every important project for the upbuilding of the community. He was a pioneer in the establishing of a park system, and was one of the first park commissioners. He was largely instrumental in the establishment of the Grant Highway, which at this time is paved from Chicago to Sioux City, Ia. He was the prime mover in the creation of a City Beautiful, and plans were prepared under his direction, by which it is hoped his dream will ultimately come true.

This tribute of one who had known him intimately for the past thirty-five years would not be anywhere near complete if he did not mention the faithful wife who, during those years of adversity or prosperity, was constant in encouragement and assistance. With such assistance and encouragement, coupled with the traits before mentioned, George Roper lived a useful, happy and successful life, and his presence will be missed by his friends and associates at home and abroad.

The writer had been in close touch with Mr. Roper from the beginning of his illness extending over a period of two years, and since August 1st he had seen him at each week-end, and had observed his gradual failing health. Even here he displayed that indomitable will and courage and a desire to live which possessed him during the active years of his life. He wanted to live, for he had much to live for; but the disease of which he was stricken finally exhausted him until he was obliged to give up and submit to the inevitable.



## Next, the Spring House Cleaning Load???

Experiences with a Gas-Operated Vacuum Cleaner that "Heats as It Sweeps as It Cleans"

**T**HERE are few people at the present time who do not acknowledge the advantages of vacuum cleaning over other and older methods of removing dust. Indeed a demonstration will at once convince a doubting person of the effectiveness of the system. So far the choice has been between hand and electrically operated machines, both of which have their disadvantages and their objectionable features. An entirely new invention—the gas-operated machine—is now being offered to the public. The apparatus possesses certain unique features which deservedly claim attention:

(1) The machine gives a higher degree of vacuum than any other domestic type of apparatus—hand or electric (it is the degree of vacuum, be it noted, that decides how much dust shall be removed and how much left behind); further, the principle of the gas machine is such that any resistance at the nozzle is met by an additional pull of the machine, resulting in a further degree of vacuum. (Other types of apparatus do not function in this manner.)

(2) The dust collector of the machine—the only part that has to be moved about the room—is of very light weight (about 3 1-2 lbs.). The average hand or electric machine would weigh three or four times as much.

(3) The air used for cleaning, after passing through the filter, flows along the flexible hose and thence to the vacuum machine. Any disease germs, therefore, which may have been drawn from the carpet, pass into the machine and are destroyed.

The gas vacuum cleaner is an entirely new invention, and is, so far as the vacuum producer is concerned, a fixed machine; it can be installed in any convenient part of a flat, maisonette, office or

house. The machine is connected by flexible hose (5/8 in. diameter) to a very light and handy dust container and nozzle (the dust, etc., does not pass through the pipe, so that there is no possibility of a blocked pipe). The nozzle is of the usual



Compare This Airy Apparatus with the Ten Pounds Your Wife Carries Around the House Today.

small dimensions of the hand machine nozzle, so that it can be operated under table, chairs, etc., with facility, in fact under just such conditions as are invariably found in living rooms, bedrooms, etc. There is no noise whatever in the room where the cleaning is being performed, and the dust collector slides over the carpet freely and without exertion on the part of the operator.

The machine is easy to start, half a minute sufficing to put it to work. It is perfectly safe to use. The pressure in the vacuum chamber does not exceed 4 to 5 lbs. per square inch, and the vacuum is 2 in. of mercury at the nozzle, a higher degree of vacuum than is obtained with electric and hand machines, and one that ensures the dust being effectively drawn out of the carpet.

The vacuum chamber is surrounded with water, and while the water keeps the chamber cool, the water itself becomes hot. Thus the machine combines the advantages of vacuum cleaner and water heater, and the cost of operation is such that for about 2 1/2d. (gas 3s. 10d. per 1,000) an hour's cleaning can be done and about 6 gallons of hot water are available for household purposes.

The machine depends for its action upon the expulsion of the air contained in the vacuum chamber by the combustion of a small quantity of mixed gas and air, in the lower end of the chamber. Assuming a small quantity of mixed gas and air,

in the lower end of the vacuum chamber to be ignited (by the bunsen flame outside the machine), the resulting expansion drives out the contained air through the discharge valve at the top of the machine. The hot gases are very rapidly cooled by the water in the tank, and a partial vacuum results. This vacuum draws air along the flexible pipe for cleaning purposes (past a non-return valve), sucks a fresh supply of gas into the lower end of the vacuum chamber, and draws in a tongue of flame from the bunsen burner; the flame ignites the fresh gas, as soon as it reaches the level of the igniting port.

## Half Soles and Heels for the Quench Car

### Saving Pennies Earns Thousands of Dollars on a Salvage Job

By R. R. L. McLEOD, Empire Gas and Electric Company

**A** SAVING of approximately \$7,700 was effected by the Empire Gas and Electric Company by rebuilding an old coke quench car at the Geneva gas plant. The exact cost of putting the car in first class condition was \$2,217.78, including all material and labor. The cost of a new car of this type is a little more than \$10,000.

The accompanying illustration shows the car after all the repair work had been completed. The car is of ten tons capacity, measuring forty-six feet six inches over all, forty feet inside the body, and weighs fifty tons. It had been in use three years and was badly eaten away by rust, wear, and chemical action.

The ten gates on the discharge side of the car were rebuilt, and new cast iron floor plates, the most expensive item in the repairs, were laid. A rack was built on the top of the car, new fire lining was fitted throughout, and new wheels and springs were installed on the original trucks underneath the body.

Several minor improvements were made over the original design of the car. The gates were built of steel slats rather



The Scrap Heap Almost Got It—but Not Quite. Material for Repairs Cost \$1,799 and Labor \$472.78.

than the solid sheets of steel drilled with holes, which are standard equipment. It has been found that the slats handle the expansion and contraction more readily than the drilled plates. The floor plates were extended several inches beyond the side of the car to overhang the coke wharf and prevent spilling between the car and the wharf. A platform was built on the end of the body to carry the mud for sealing oven doors, and a larger platform installed to carry the coke guide from one oven to the other. This guide is used only on the smaller ovens; the guide for the larger ovens travels on a track.



# Brief Researches into the History of the Gas Range

## Including the Original Stove Catalogue of the American Meter Company

By CHARLES T. AARON, A-B Stove Company

At the beginning of this paper it becomes necessary to call attention to the fact that very little information is on record about this phase of the gas appliance business. It is true that gas as an illuminant has many years start over gas as a fuel. Even with this start, there is very little on record of the early developments, and there are periods covering quite a number of years in which there is no reliable information to be had of the progress of the industry.

While this paper deals with gas range history, it is necessary to mention below two facts which will give us the starting point in this country.

The first exhibition of coal gas as an illuminant in the United States was given in Philadelphia in 1796. The gas was made by M. Ambrose & Co., Italian fireworkers and artists, and was exhibited in burning lights of fanciful figures at their amphitheatre in August, 1796.

In 1806, David Melville lighted his house in Newport, R. I., and the street in front of it with gas manufactured on the premises.

Just ten years later, 1816, the first gas company on this continent was chartered. Companies were then chartered in various cities as follows:

Boston .....	1822
New York .....	1823
Philadelphia .....	1835
Pittsburg .....	1836
Cincinnati .....	1841

In 1850 there were 237 gas companies in the United States, six in Canada and one in Cuba.

To England must go the credit of first using gas as a fuel to cook with. Mention is made of the fact that James Sharp used gas for cooking in his home in 1832. While people wondered at the perform-



KEYSTONE

This Old Range, Exhibited at a Recent Anniversary Show by the Consolidated Gas Company of New York, Was Made for the President of the Baltimore Gas Company. It is the Property of the E. S. Bartlett Company of Philadelphia.

ance at that time, very little thought was given to it.

Eighteen years later, in 1850, the public marvelled at the wonderful feat of roasting 535 pounds of meat in a large brick oven, the heat being furnished by 216 open jets. This is the first record of a large use of gas for cooking.

In 1859 the first advertisement of gas ranges was inserted by Sam McDougall. In the same year the Shaw patented cooking stoves were advertised.

The American Gazette stated that 100 families were using gas ranges for cooking. At this date it was considered a remarkable advancement in the gas business.

In 1864 the Old Dominion Gas Stove Company, in Philadelphia, featured a three-burner hot plate and portable oven.



Another Old Timer, Exhibited at the Philadelphia Centennial in 1876, Now Owned by the Boston Consolidated Gas Company.

Later in the year, this same firm advanced the Hellen gas range.

The honor of opening the first gas appliance store goes to Providence, R. I., in 1873. This was the first decisive step in the sale of appliances.

A decided improvement in gas range construction was brought to the attention of the gas companies and the public in 1879. In this year Goodwin & Co., meter manufacturers, advertised and sold the Sundial range with the raised burner top and removable drip pan.

In 1879, the American Meter Co., Philadelphia, sent their superintendent abroad to study gas range design in England and France and to import supplies. After an exhaustive study, he returned with proper samples and they launched into the gas range business. The following is quoted from a letter from this firm dated April 6, 1915, which gives some light on this history from their side:

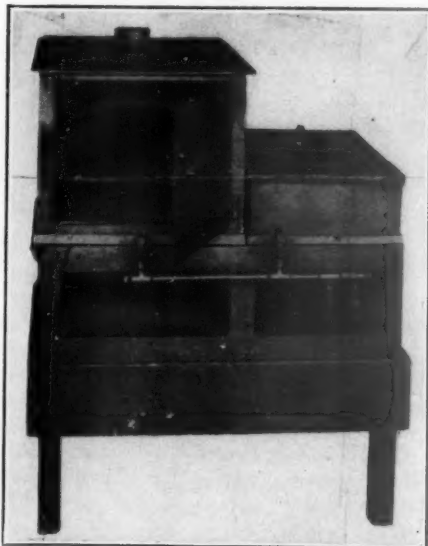
"The American Meter Co. originally went into the gas stove business as a sort of favor to the gas companies, to assist

them in the sale of gas, but without any expectation on our part that the stove business would be a profitable one. The result was that, after the gas stove business became a separate and distinct industry, we were very glad to abandon it to the regular stove manufacturers, and we were only in the business, ourselves, for a period of eleven or twelve years.

"Of course, at the outset, the preparation of patterns for various designs of stoves was very expensive, and we also had to depend upon the regular stove foundries for our parts. So that, naturally, the stove manufacturers adapted themselves to the new conditions, and, as stated, we entirely dropped the manufacture of stoves in about the year 1893, since which time we have not manufactured stoves of any description.

"I enclose, herewith, a few leaves taken from the American Meter Co.'s Almanac of the issue of 1881, which gives a sort of a history of what led up to the gas stove business in this country.

"I might add, for your information, that the stoves which we manufactured must have been remarkably durable, for



The First Gas Range Built in the United States, Sometime in the "Roaring Forties." The Burners Consist of a Ring of Iron Filled with Sand and Placed on a Wire Screen. Gas Is Fed through the Screen and Ignited on Top of the Sand.

the reason that, even yet, occasionally we have letters from various parts of the country from people who have our stoves, asking for repair parts which have either been broken or worn out."

In 1881 what is thought to be the first attempt to catalogue gas ranges was issued by the American Meter Co. in their Annual Almanac. The wording of the catalogue is so forceful that it is deemed best to make it a part of this paper in its original form:

### GAS STOVES

from

American Meter Company Almanac of 1881.

This is an "important" subject, with a very extensive and constantly increasing field of operations to work in. To till this field, properly, the "united efforts" of gas companies (through their officers) with manufacturers is of paramount advantage to ultimate success in a rich harvest, by the largely increased sales of gas to the companies whose energies are properly exercised in the right direction, and to a fair margin of profit to the manufacturer. That "united" effort in this branch of industry is needed and sure of reward is certain. The gas company, by a persistent energy to introduce stoves, etc., and other appliances for burning gas—into every household or factory where possible, by exhibiting a line of stoves and gas engines to their customers, and by offering to them every aid possible to assist in educating them to become larger consumers by the use of gas for domestic purposes generally, and further, to make prices of stoves and other apparatus needed, and the price of gas, so low as to make it a necessity for consumers to use it. The manufacturer should devote his best energies and skill to the production of stoves for cooking, heating, etc., also to all other appliances for the use of gas, so as to give the "best possible results" for amount of gas consumed, and to sell his productions at as low rates as possible, consistent with a fair margin of profits. Competition of various makers, anxious to secure this trade, is a good guarantee on this head.

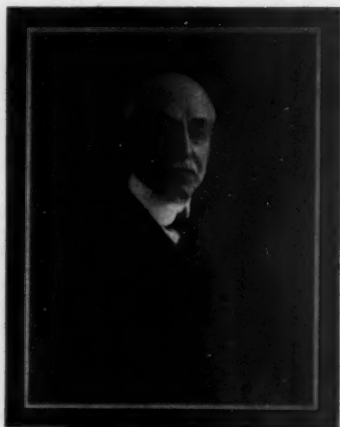
Previous to engaging in the manufacture of stoves our superintendent visited

France and England to examine the various makes of stoves, the result of which was sundry purchases from both French and English makers, selecting only those supposed to be best adapted to use in the United States. Among them were those of Messrs. Viellaird & Co., Paris, Chabrie & Jean, Paris, Billing & Co., Beverly & Wylde, E. Siddaway & Son, H. C. Davis & Co., Faring & Co., and B. V. Maughan, all being English manufacturers, from some of which, with proper and judicious management on the part of the companies, is bound to be a source of profit to themselves and satisfactory to their consumers, as the past has clearly demonstrated that gas is the best, safest, cleanest, and in many cases the most economical source of heat. Economical, from the fact that it need be used only when actual work is being done; and in the great saving in weight of meats, poultry, etc., it being a well established fact that all articles properly cooked by gas retain more of the juices, and all that is savory and nice, than if cooked by any other method, hence less loss in weight when so cooked. In this lies a double incentive to its use—greater weight and of better quality than by any other method—these points, favorable to the use of gas, cannot be disputed. The next point, and a very important one, is to select such stoves as will do the largest amount of good work with the smallest consumption of gas, otherwise the consumers will become dissatisfied, cease using the stoves, and speak disparagingly of them to their neighbors; while if using the most economical stove, and thereby getting the best possible results for amount of gas consumed, the result will be satisfaction, and the consumers themselves will be the best medium of advertising them.

### EARTHQUAKE INSURANCE

GAS COMPANIES along the eastern seaboard have been quoted a rate of 4 cents per \$100 without the co-insurance clause, or 2 8/10 cents with an 80 per cent co-insurance clause. Of course, these rates apply to this section of the country, and probably will increase where there is any known hazard of earthquake. A policy may be written on a term basis of two and a half years' premium for a three-year policy and four years' premium for a five-year policy.

## John D. McIlhenny



**J**OHN D. MCILHENNY, of Helme & McIlhenny Company, Philadelphia, Pa., died recently as the result of a heart attack at his home, Wayne Avenue and Johnson Street, Germantown. He is survived by his widow, who was Frances Galbraith Plumer, and to whom he was married in 1898; likewise by two sons and a daughter, John D. McIlhenny, Jr., who is in his father's business; Henry Plumer McIlhenny, a student at the Episcopal Academy; and Bernice McIlhenny, who graduated from Smith College last spring. He is also survived by two sisters, Mrs. H. S. P. Nichols and Miss Selina B. McIlhenny, and by a brother, Francis S. McIlhenny, all of Philadelphia.

Mr. McIlhenny was born in Columbus, Ga., on October 7th, 1866. His father, who was an engineer, had gone to Columbus, Ga., from Philadelphia a few years previously to construct the gas works there, and had remained as superintendent of the company and as a partner in one of the

early cotton mills of the South. In 1876, Mr. McIlhenny's father returned to Philadelphia as a partner in the firm of Helme & McIlhenny, manufacturers of gas meters at the corner of Juniper and Cherry Streets. His son graduated from the Philadelphia High School in 1885, and entered business with his father in the firm with which he was connected at the time of his death.

Mr. McIlhenny early saw the possibilities of development of the gas and electric business, and many years ago took over the ownership or management of various public utility companies. Although he retired from the more active management of these companies some years ago, he was, at the time of his death, still interested as owner or director in a number of enterprises. Among others he was a director of the Portsmouth (Va.) Gas Company, the Washington (D. C.) Gas Light Company, Counties Gas & Electric Company, and the Saving Fund Society of Germantown.

Some twenty years or more ago he became interested in the study and collection of oriental rugs and from that turned his attention to art in general. In recent years Mr. McIlhenny has devoted a large part of his time to the direction of the museum in Memorial Hall in Fairmount Park. At the time of his death he was president of the Pennsylvania Museum and School of Industrial Art, a trustee of the Fairmount Park Art Association, director of the Art Alliance of Philadelphia, and a member of the Rittenhouse, Art, Union League, Philadelphia Cricket, Country and Sunnysbrook Golf Clubs. He was also president of the board of trustees of the Summit Presbyterian Church, Germantown, and president of the Pennsylvania Scotch-Irish Society.

Mr. McIlhenny has travelled extensively and kept himself thoroughly informed as to the various art museums in this country and in Europe. He returned, about six weeks before his death from Paris, where he had gone to visit the exhibition of decorative art.

Mr. McIlhenny has made a fine collection of art objects. A portion of his home in Germantown is in the form of an art gallery, and in it are contained many of his choicest pictures and examples of early furniture and silver. His home is an excellent example of what can be accomplished with art objects in the setting of a private home and has been constantly visited by collectors, museum curators and art students.

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### In Memoriam

G. L. Stansbury, Business Research Corporation

# The Effect of Rate Structure on the Customer and the Gas Company

Some Facts the Public Should Be Told About the Things They Pay For

By C. S. REED, A. G. A. Rate Structure Committee

THE figures given in the following are based on a gas rate of \$1.20 per thousand cubic feet, but the methods and facts are applicable to any meter rate. All that is necessary is a change in amount.

On a gas rate of \$1.20 a thousand cubic feet, the average consumption per residence meter would be about 2,500 cubic feet a month, and the average bill would be  $2,500 \times \$1.20$ , or \$3.00 a month. Our problem is, therefore, to determine the easiest way to raise \$3.00 per month from the sale of 2,500 cubic feet of gas to an average customer.

If we string to the opposite extreme, as compared to the present basis, we will have a ratio similar to the original ones used for selling natural gas, namely: \$3.00 a month flat charge, regardless of the amount of gas used.

If we compromise between the two extremes and use a fixed monthly charge of, say, \$1.00, we will have left the difference between \$3.00 and \$1.00, or \$2.00 to be raised as a gas charge. Dividing this by the consumption of 2,500 cubic feet, we have a gas charge of 80 cents a thousand.

If we increase the fixed charge of \$1.50, it will leave only \$1.50 to be raised as a gas charge, or 60 cents a thousand.

Thus we have four rates:

\$1.20 per thousand cubic feet;

\$3.00 per month flat rate;

\$1.00 per month plus 80 cents a thousand, and

\$1.50 per month plus 60 cents a thousand,

each of which mean the same to the gas company on present sales. Which shall we pick as best for the customers and community? Before choosing, let us

compare the effect of each on individual customers.

In the first column of Table 1 is shown the gas used by individual customers, and



K & H

Get Away from the Idea That the Poor Man or Woman Is a "Small User" of Gas.

in the other columns are shown the bills of each customer under each of the rates.

TABLE 1

Gas used by customer in cu. ft. per Month	Comparison of Rates Monthly Bill Under Various Rates			
	\$1.20	\$3.00	\$1.00	\$1.50
	per M cu. ft.	per Month	per Mo. plus 80¢ per M	per Mo. plus 60¢ per M
500	\$ .60	\$3.00	\$1.40	\$1.80
1000	1.20	3.00	1.80	2.10
2000	2.40	3.00	2.60	2.70
2500	3.00	3.00	3.00	3.00
3000	3.60	3.00	3.40	3.30
4000	4.80	3.00	4.20	3.90
5000	6.00	3.00	5.00	4.50

Which rate tends to strangle the gas business by charging for the commodity and giving away the service?

Which rate will cut down sales, drive away large customers and result in increased costs and higher ultimate rates to the small customers originally benefited? Naturally, No. 1.



## 'DEMAND CHARGE' TO EQUALIZE GAS COSTS ADVOCATED

Poorer Classes Now Bearing  
Real Burden in House  
Service

### ASK SCIENTIFIC PLAN

American Assn. Convention  
Hears Outline of Proposed  
Distribution

A change in present methods of  
charging for gas service so that the  
poor who spend a considerable

Some A. G. A. Convention "Publicity" Indicating That the Problem of "Dividing and Equalizing" the Rate Burden Is a Popular Subject.

Which rates, while apparently ideal for the customers, would encourage the use and waste of gas to such an extent that the plant and mains of the company would be swamped and poor service would result? The flat rate, No. 2.

Which rate would encourage the use of gas, but would at the same time discourage waste? Which rate would tend toward lower future rates by stimulating sales and putting gas on a competitive basis with other fuels? Which rate would help eliminate bill complaints by making winter and summer bills more nearly uniform?

And, if we look at the matter from the standpoint of the customer, alone, we cannot help but pick No. 4 as being best for the community.

In the previous discussion (see A.G.A. MONTHLY, October, 1925) we over-

looked the big customers—those who require more delivery service in the shape of larger mains, meters and plant capacity.

#### TAKING CARE OF THE BIG CUSTOMER

In order to properly charge such customers, we must graduate our delivery charge according to the amount of service demanded or split it into two parts:

## GAS FIRMS AIM TO CUT RATES BY 'DIVIDING' BURDEN

Greater Use by Industries  
Would Lower Costs,  
Meet Told

ATLANTIC CITY, Oct. 15.—Gas manufacturers of the country are seeking to lower rates by a more scientific rate structure, distributing charges equally, it was declared.

1. A customer charge, the same to everybody, to cover those items of expense and fixed charges which are the same for all customers, large or small.
2. A reservation or speed charge to cover those expenses and fixed charges which vary according to the speed at which gas is used. This charge is increased for the big customers.

Thus we have our community rate, with each customer paying a delivery charge depending on the amount of service he requires, and a gas charge according to the amount of gas he uses.

We have approached our problem from the standpoint of the customer without regard to any figure of investment or expense, and we have arrived at a rate which is scientifically correct from the company's standpoint.

In order to sugarcoat a readiness-to-serve charge, it is sometimes buried in a high charge for the first 100 or 200 cubic feet. For instance, No. 4 rate can be expressed as \$1.62 for the first 200 cubic feet plus 6 cents a hundred (60 cents a thousand) for additional gas. The big defect of this rate is that, while apparently designed to please the small customer, it actually favors the big customer, for it does not permit the bigger speed or reservation charges of the community rate.

#### THE DISGUISED SERVICE CHARGE

The principal objection to any readiness-to-serve rate is that it is an abuse of the small customer. "Jumping on the Little Fellow" is a favorite expression of politicians and newspapers. Contrary to this idea, the community rate is the best possible rate for the small customer, for it is the only type of rate which gives him a chance to grow up. The poor man



The Customer Who Wants To "Pay Only for What He Gets" Never Dreams of Expecting the Coal Dealer to Tend His Furnace and Keep It Supplied with Fuel.

with a family has a real need for gas, and is never the small gas user, unless compelled by a high meter rate to depend on coal or wood for cooking and water heating purposes. He is quick to learn the advantages of additional gas at a low price per thousand which will make his kitchen as free from cinders and dirt as the kitchen of the wealthiest man in town. The community rate lowers the cost of "good home cooking."

Sometimes a customer says, "I want to pay for what I get. Why can't you put a price on your product like any other merchant and charge by the thousand?"

The same man would never dream of asking the coal dealer to keep his coal scuttle constantly full, to carry out ashes and tend to fires, to put a scale in each cellar to weigh the coal and yet charge by the pound as the coal was burned.



#### One O'clock—and the Turkey Browning!

Suppose They Had to Wait for Their Gas? It Is the Delivery Service That Counts More Than the Fuel Itself.

The man who wants to pay for what he gets would be the first to kick if he were told he would have to wait half an hour before the gas could be delivered to cook his Christmas dinner. It is the delivery service that counts, more than the fuel itself.

Another customer says that he doesn't want to pay \$1.50 a month for the "privilege" of doing business with the gas company.

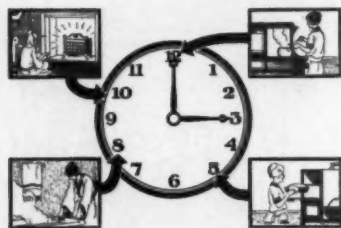
The same man would probably be delighted to pay a privilege tax of \$3.00 and be permitted to use all the gas he wanted. The \$1.50 is for the privilege of getting gas at 60 cents a thousand. We pay a heavier charge per month for the privilege of having a telephone in the house, even though we may never use the phone.

Another objection to the rate is that it is too complicated. That objection disappears once the customers have used the rate for a while and gotten over their fear that the company is "slipping some-



thing over." The uniformity of bills from month to month lessens complaints.

Some gas men claim the three-part-rate drives away business. Some small convenience users may quit, and apparently the saving in cost of service is not as great as the revenue lost. Such customers should never have been taken on in the first place, and their elimination



## ON TAP

### GAS SERVICE IS UNIQUE

You get it when, where, and how you want it. No delay—no telephoning—no waiting from hour to hour just what your requirements will be.

Gas service is always on tap, plenty of it at all times, ready to be used in large or small quantities as you see fit, and to be paid for after you have used it!

Did it ever occur to you that in order to render such service, we must make just as big an investment as if you were to use gas the full twenty-four hours a day? Think it over!

Ads Like This, from the A. G. A. Advertising Copy Service, Are Educating Thousands in the Fundamentals of Utility Management.

will make it unnecessary to take on other similar ones at a loss. Besides, the additional business will more than offset the loss of these few users. Much of this additional business will come from sales to the present small customers who cannot now afford to use much gas.

The claim is made by some that the service charge in any form is unpopular, and they point to the law passed by the New York State Legislature forbidding all service charges. The reason for the present unpopularity of the service charge is owing to the fact that almost all such charges now in effect were put in as *increases* in rates. They came as added charges for which the customers received nothing additional. The customers will consider it differently when its taste is sweetened by a decided cut in the gas charge. For example, the Missouri Commission abolished a 50-cent service charge

in Webb City, and a year later approved a three-part-rate for that same town, even though the resultant service charge varied from \$1.35 upward.

In Ottawa, Kansas, there was bitter opposition to the three-part-rate when it was first installed in 1920. It was made a political issue by both of the two candidates for mayor. For instance, in the theatres you would see a slide—"Vote for Mansfield and against the Gas Hold-up." The next slide would be, "Vote for Pleasant and against the Gas Robbery."

Yet Mansfield and Pleasant were the only candidates.

Three years later a committee was sent to Ottawa from another city to investigate conditions. The report of this committee was extremely favorable, especially as regards public approval of the gas rate. Both Mr. Pleasant and Mr. Mansfield recommended the rate highly.

As a rule any change from the regular order of things is unpopular at first, but it is only a matter of getting used to the new form. When meters were first installed in the natural gas field, it was necessary to pass laws compelling their use. When meters were first installed on water, customers' violent objections were raised, and some riots occurred; but anything that is done for the welfare of the community as a whole will stay and will soon be recognized as the proper thing.

♦ ♦ ♦



Samples of Gas Ranges Ready for Testing in the New A. G. A. Laboratory at Cleveland.

# Wanted: Elbow Room for the Annual Convention

Adequate Facilities Not Available in Middle West Before 1927  
at the Earliest

By the EDITOR

THE Executive Board has decided: We meet again in Atlantic City, October 11 to 15, 1926, with a strong indication for the Middle West in 1927.

To some this announcement will be a disappointment; to others, a relief. A brief consideration of the factors involved in the choice, however, show at once how inevitable it must have been.

The Time and Place Committee reported to the Convention in October that a majority of its members favored Atlantic City in 1926; but there was a strong sentiment for the Middle West, and the Manufacturers Section had adopted a resolution favoring that section of the country. The committee, therefore, made no definite recommendation of a meeting place, but advised that a vote be taken of the membership and suggested that the subject of proper facilities be seriously considered in reaching a decision.

A mail ballot, however, proved inconclusive, although the members in the Middle West voted largely for that section, also receiving the support of quite a number in the East who recognized the justice of the western claims. As a result, the Middle West was favored by a slight majority of each class of membership; but the total vote was light, less

than 45 per cent of the company members indicating their choice.

In line with the committee's recommendations, A. G. A. Headquarters made a thorough survey of cities in the Middle West. They found not a single place, ready at this time, where the Convention and the Exhibit could be accommodated under the same roof, an arrangement earnestly desired by our manufacturers, as well as by our members generally. Obviously, the problem was, and is, a serious one.

For some score of years the manufactured gas industry has been growing amazingly, and with it the various state and national organizations devoted to its progress. But we doubt if a proper con-

ception of what this growth involves was ever completely realized until the Association last year was urged to look elsewhere for a meeting place.

It is the old fable of the calf, who was locked in his stall until he should become a heifer. The doorway was too narrow to let him out. In the same way the A. G. A. has grown, almost in spite of itself.

It may be well to enumerate here some of the factors which must be weighed in selecting a convention center. Hotel reservations must, of course, be adequate to accommodate comfortably and conveniently all the 4,000 or more men and

## WE MEET AGAIN

Atlantic City has been selected as the meeting place of the eighth annual convention of the American Gas Association, to be held October 11-15, 1926.

Although this is the fifth occasion that the A. G. A. has met at the famous seaside resort it was found to be impossible at this time to get adequate facilities elsewhere.

Nearly a score of other cities, particularly in the Middle West, have made bids for the next convention, and there is considerable sentiment among the membership to hold the 1927 meeting somewhere west of the Alleghenies, if not of the Mississippi. Several of these cities are building new convention accommodations at the present time, some of which may prove to be sufficient for our purpose next year.

women who come to attend the Convention. Meeting places for the general sessions, as well as for the simultaneous gatherings of the various sections, must be provided and of easy access. Exhibit facilities must be ample to meet the demands for space on the part of our manufacturers.

Of these three considerations, the last weighs heavily in the selection. Approximately 34,500 square feet net of actual exhibition space, or 52,000 square feet gross, were occupied during convention week last October. At the present rate of increase in potential exhibitors, the demands for next year may be close to 40,000 net, or 60,000 gross, including aisles and other requirements. This is large, but not excessive.

The difficulty lies, not in providing space for the Exhibition alone, but in finding all three requirements of the Convention within easy access of each other. The Convention might easily survive a certain separation of hotel and meeting accommodations. But not so in the case of the sessions and the exhibit, which have always been effectually utilized as a sort of magnet for each other.

Some organizations, suffering from the same growing pains, are planning either to dispense with exhibits entirely, or to hold them in different places and at different times of the year. No one in the A. G. A. has ever seriously proposed such a step, nor is it likely that anyone would wish to do so.

For these reasons, the Executive Board, when it came to a decision, had no option but to return to Atlantic City, for this year at least, its members expressing the hope that the Middle West would be ready to receive us by the fall of 1927.

As a national organization of increasing influence, the A. G. A. is bound to give equal consideration to all sections of the country, and afford access to its facilities to its people everywhere. This is good policy and is highly desirable from every point of view. But the fact of the matter is that, while the Association is more than

ready to move its Convention to the point of greatest convenience to all its members, wherever that may be, the general lack of adequate accommodation is temporarily a barrier.

The A. G. A. Convention has grown to such proportions that probably not more than four or five cities of the country will ever be able to furnish proper facilities for its use. In every case, investigation shows that much still remains to be done.

Does this mean that we are permanently wedded to Atlantic City? Fortunately, there is little, if any danger of that. Chicago and Cleveland, not to mention other places, are constructing added hotel and exhibition space which should be available well before October, 1927. Sentiment is strong in the Association to hold that year's convention in the Middle West. A change of scene undoubtedly will be good for all of us, if it does nothing more than help cement those bonds of union which hold us to a common purpose. We can best prepare for it by breaking all Convention records in 1926.

## CHEMICAL BIBLIOGRAPHIES

A BIBLIOGRAPHY OF BIBLIOGRAPHIES on Chemistry and Chemical Technology, 1900-1924, by Clarence J. West and D. D. Berolzheimer, is announced by the National Research Council, Washington, D. C., as their Bulletin No. 50 (308 p., \$2.50).

This work is composed of the following sections: General Bibliographies, Abstract Journals and Year-Books, General Indexes of Serials, Bibliographies of Special Subjects and Personal Bibliographies.

As the title indicates, the work is a compilation of bibliographies published as separates, or at the end of books or magazine articles, or as footnotes to the same, on the numerous aspects of pure and applied chemistry. Each entry gives name of author or compiler, title, and place of publication. The majority of the entries state the number of references, thus giving an indication of the completeness of the particular bibliography. The entries are classified under the proper subject-headings, alphabetically arranged. The duplication of individual entries has been largely avoided by the liberal use of cross-references. An approximate analysis shows that there are about 2400 subject headings, 7500 author entries and a total of 10,000 individual bibliographies.

# This Business of Conservation

Exactly Where Do We, as Gas Men, Come in on a National Program?

By C. B. PHILLIPS, Surface Combustion Company

OUR Creator has been most generous in the natural resources He has placed at our command but, at the same time, He is exacting in His demands that our stewardship be rendered with thoroughness, vision and economy.

As a nation we have undoubtedly been wasteful of these precious resources owing to our being engrossed in past years in problems of government and labor of immediate and vital nature during those times.

However, we are now directly in the midst of a worldwide competitive era, the like of which we have never before experienced. We are evidencing the seriousness of this situation by making a concerted effort as never before to realize on the value of conserving our natural resources to meet this competitive situation by effecting economies which will permit us to maintain our supreme position in the producing and marketing fields of the entire world.

The gas industry is certainly starting to assume its burden in the solution of our national problem by the interest it has shown during the last few years in the industrial gas phase of the industry. Those less interested than ourselves may ask what connection industrial gas has with the conservation of our natural resources. This question surely gives us an opportunity to paint a wonderful and truthful picture of the fundamental considerations which made gas the ideal industrial fuel. May I say right here, if we, as industrial gas advocates, cannot portray this background to our customers in a favorable and acceptable manner, we are woefully lacking and our "cause" will suffer accordingly.

Gas is a major by-product of coal, and



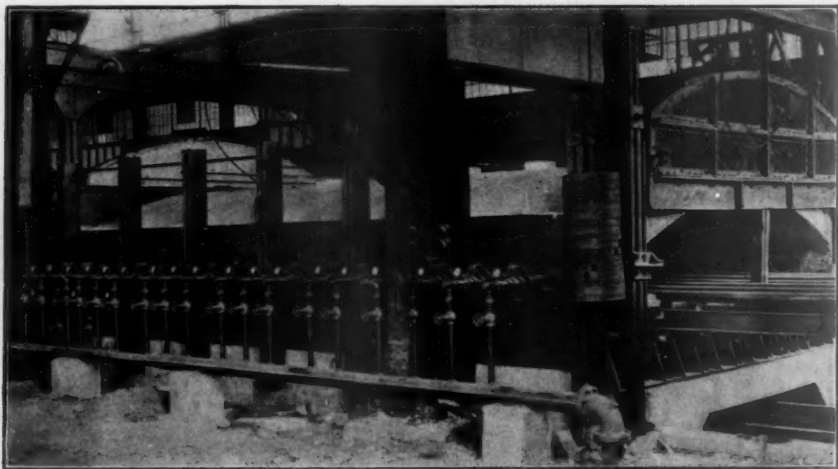
Heat Treating Locomotive Axles by Gas in St. Louis, Mo.

we will surely all agree that Old King Coal reigns supreme as our natural resource which has a fundamental and basic connection with nearly everything produced today. As a nation we consume over 600,000,000 tons of coal annually. Approximately three quarters of this is uselessly wasted—in other words, we throw into the atmosphere approximately 900 tons of coal a minute. As an actual illustration of this waste:

In 1914 I came into Toledo by boat and, passing opposite the Toledo Furnace Company, noticed a very large and high flame shooting up from a stand-pipe. I asked what this was and was informed that it was "waste gas" from coke ovens.

Now score one for industrial gas. Just five years later gas from the same source was being distributed to the industries of Toledo, the industrial sendout having increased from 500,000 cubic feet per day in 1915 to 10,000,000 cubic feet per day in 1919. This gas, which was just one of the by-products of the coke ovens, the same as tar, benzol, etc., went into industrial plants and replaced coal-fired producers, which are wasteful at best, and also coal and oil as direct fuels.

Continuing our picture, let us consider



Gas-Fired Continuous Boiler Plate Furnace in Plant of Union Metal Products Company.

two other natural sources of fuel, namely, oil and electricity, as obtained from natural water power sources.

Whereas there is an abundant supply of coal (if correctly conserved) and facilities for mining same, it is maintained by our scientists that, at the present rate of production, our known oil resources will be practically exhausted in twelve years. One tenth of the oil used to date was consumed during the last year alone. The oil market of late has been flooded owing to the "hog eat hog" method of drilling, like four people drinking soda water with straws out of the same glass.

This surplus of oil has resulted in increased merchandising efforts on the part of many oil companies and, of course, this situation is temporary and thoroughly uneconomic and wasteful of our natural resources.

As soon as our oil companies actually attack this oil problem in a fundamental way, it will result in conservation, increased production of by-products and oil and finally in the elimination of oil from the industrial fuel field.

At present there is a real potential field for oil at much higher prices as a domestic stand-by fuel for helping to reduce the

excessive and uneconomic peak loads thrown upon the gas companies by the domestic heating load.

#### ELECTRICITY NOT AN ECONOMIC FUEL

As a fuel, electricity is equal to gas in many applications owing to its ease of transportation and control, but again the economics of our natural resources would tend to exclude electricity from the industrial heating field.

A careful survey has been made of all water power available in the United States, and this shows that this source of generation of electricity would not come within millions of kw. of the requirements now being taken care of by coal.

Present day practice gives the following results: For three pounds of coal burned in a boiler, 1 kw., or 3421 B.t.u., of electrical energy will be produced. For three pounds of coal burned in a gas generator, 4 x 3412 B.t.u. of gaseous or heat energy will be produced. In other words, the efficiency of generation of heat for a furnace through the medium of gas or electricity will be in the ratio of 4:1.

Furthermore, the investment per 1,000,000 B.t.u. of hourly capacity in an



electrical plant is \$28,000 as compared to an investment of \$4,800 per 1,000,000 B.t.u. of hourly capacity in a gas plant. This gives an economic ratio in favor of gas, as an ideal industrial fuel, of 5.5:1. The operating costs per ton are the same, approximately, especially if credit of by-products is given to gas generation.

From the standpoint of generation costs, gas is five times cheaper than electricity, which fact is fundamental and basic.

Now then, having established the position of industrial gas from the standpoint of fundamental and basic economic principles, the next step is naturally that of establishing a policy and working out conditions which will make it possible for the gas companies to obtain a greater distribution of industrial gas on a competitive fuel basis.

This situation brings forth many problems.

First, it is necessary to get State Public Utility Commissions to lower the heating value standards so that gas or heat units can be produced on the most economical production basis, which present day franchises do not permit.

The function of the central station gas company must change from a domestic service organization primarily to an organization prepared and satisfactorily franchised to give a complete and economical service to industrial plants. One of the officials of our largest gas company said just the other day that they certainly would have to look to the industrial field for their real profits and expansion for the future. This is active evidence of the interest and trend of the thinking executives of the gas industry. Furthermore, the State of Colorado has recently eliminated heating standards, and many other states are considering like measures. We should have standards of uniformity and service with due consideration for production costs, permitting of minimum rates to customers.

Having produced gas on the most eco-

nomical basis and under broad and fair regulation, the next problem is one of equitable rates. This problem necessitates an analysis of cost records. This analysis reveals the fact that we may divide our costs into three main divisions: A "Cus-



Front View of Furnace on Preceding Page.

tomer's Cost", which covers the general overhead expenses which apply to all customers alike; a "Demand Cost", which represents that item of cost which is occasioned by the gas company being ready at all times to supply the maximum demand of the customer; and third, a "Commodity Cost", which represents a manufacturing and distribution charge and is proportional to the amount of gas that the customer uses.

A rate of this nature, ordinarily termed the "Three Part Rate", is receiving an ever-increasing amount of attention from the gas industry, for it insures an adequate and fair return, and, at the same time, gives the customer who has a good load factor and a large consumption (in other words, the best customers) the cheapest rates.

It might well be mentioned here that we cannot hope to sell an appreciable amount of industrial gas at approximately 80 per cent of the domestic rates, and the sooner we realize this and try to govern ourselves accordingly, just that soon we will start getting our full share of industrial business.

With low production costs and fair rates of a really competitive nature, we now approach the merchandising features of our problem.

Many progressive gas companies are conducting thorough industrial surveys in their territories so that they may actually and positively know where their real prospects are, the exact problems entering into the sale of industrial gas to these prospects, and, finally, what steps from the standpoint of rates must be taken to secure this load.

Too much stress cannot be laid upon the value of these industrial surveys as an initial step in obtaining an industrial load which is worth while and profitable. The analysis of the reports obtained is such as to thoroughly acquaint the industrial salesman with his prospect's problems and give him recommendations which are accurate. Equipped with this information he will be able to battle down almost any sales resistance.

Engineering salesmanship is a most vital factor in our present progress. It requires an appreciable amount of time to train an industrial salesman. Herein lies another advantage of the industrial survey. An outside organization of industrial survey specialists can be called in on a consulting basis. They will analyze your prospects, submit reports and thereby materially assist in educating your industrial salesmen, equipping them with accurate information of manufacturing processes which will make it possible to speed up their results. There must be a fundamental engineering knowledge of the prospect's problems and processes if we are to sell gas as a worth while fuel service.

Industrial fuel salesmen are rather handicapped without a correct sales policy. In the first place, if an industrial department is to be operated as a merchandising proposition for profit on equipment sold, we cannot hope for the maximum industrial gas sales. The equipment sold is certainly secondary to the gas load ob-

tained if we are really serious about obtaining industrial load. Furthermore, the necessity of supporting themselves through equipment sales profits causes the salesmen to minimize their engineering investigations and analysis as well as their efforts toward rendering real service before and after sales. *If we are selling gas, we should concentrate on that and make equipment sales profits secondary at least and depend upon additional connected load for profits.*

Each one of the foregoing statements leads us to matters of policy which must be decided by the gas company official, and right here I think we are justified in making a plea for more active interest by gas company officials in the present and future status of industrial gas. In other words, if the gas company officials will only study this problem with the industrial manager, certainly we can expect broader and more efficient industrial gas merchandising policies.

Finally, we arrive at the point where we realize the necessity of efficient, economical and satisfactory industrial gas furnaces, appliances and burners, and this brings us directly to the relationship existing between the gas company and the industrial gas equipment manufacturer.

The manufacturer, as well as the industrial manager, is aware of the necessity for the development and improvement of gas-burning equipment. However, he is limited by finances, as there is no gas equipment manufacturer as yet which can compare with the General Electric Company. The manufacturer has been limited by the necessity of operating on a small margin of profit, since his equipment has to compete with cheaper fuels and at the same time allow for an appreciable discount to the gas company for resale. As soon as the gas company policies become more liberal, the manufacturer will be able to capitalize his experience more thoroughly on a basis of closer cooperation and understanding with the gas company.



# Speeding Up the Distribution Gang

## Simple Devices Save Time and Money in Making New Extensions

By GEORGE L. MYERS, Portland Gas and Coke Company, Portland, Oregon



ON account of the volume of other construction work on hand in the territory of the Portland Gas and Coke Company, it was necessary to organize a new crew to handle the Vancouver extensions. The company's present practice of installing welded steel mains makes it possible to take a foreman and a few experienced men and build up the rest of the crew with laborers, as there is very little pipe work compared to cast iron installation. Six men, including a foreman, were taken from the regular organization and enough laborers employed to bring the crew up to forty men. In order to create as favorable a public sentiment toward the company as possible, the men were employed from the Vancouver territory.

All of the mains laid in this extension were welded, including the 1 inch and 1¼ inch sizes. The sizes below 2-inch are not butt welded like the larger sizes, but are welded on each side of the screw coupling after being screwed together in the usual manner. The welding of these sizes is purely an additional expense rather than an alternate method of making the joint, but experience has shown that the additional cost of the welding

proves a good investment when compared with the value of the normal leakage from screw joints on similar lines which are not welded.

These mains were also graded to the low points and couplings welded in for drip connections. Up to this time no condensation has been met with in the Vancouver system. However, the sections of the high pressure system nearer the compres-



The Trench Is Started with Tractor and Rooter Plow, Finished by Hand and Trimmed as Shown in the Picture at Bottom.

sor station are beginning to show condensation, and it was considered advisable to provide for possible changes in conditions in Vancouver.

Some of the new work consisted of short runs and tie-ins between existing mains in the downtown district, but the larger part of the extensions were laid in new territory in the outlying sections of the city. The accompanying pictures show the various steps in the laying of small high pressure mains in these districts where it was not necessary to break pavement to do the work.

The first picture shows the tractor and rooter plow breaking ground for the



Novel Back-Filling Tool Used by Portland Gas and Coke Company of Oregon.

trench. In former days a team of horses would be hired from some farmer in the vicinity of the extension to do this part of the work, but it has been found that the tractor does the work faster and cheaper. This rooter breaks the hard crust which is usually found on the surface of street or road and does a part of the actual excavation.

The next step in the work is the completion of the trench. This is done by a pick and shovel crew as shown in the second illustration. It will be noted that the man in the foreground is not using an ordinary shovel. The tool he has is a special scoop developed by the Portland Gas & Coke Company with the object of reducing the width of ditches dug. Obviously, the narrower the ditch the less material has to be excavated, and it is, therefore, the standard policy to keep the width of the ditch to a minimum. This illustration also shows the welded pipe lying alongside the ditch ready to be laid in the trench. The pipe is delivered to the job in twenty-foot lengths and is welded up in long strings in order to eliminate making connections down in the trench.



After the pipe has been lowered into the trench, the back-filling crew replaces the excavated earth. The device which they use is another tool designed to produce maximum results with a minimum amount of effort and is described below.

The final picture shows the trimming of the ditch after the back-filling is done. The Portland Gas & Coke Company take considerable pride in the manner in which its work is done and every effort is made to leave the ditch in such shape that it is a credit to the men who have completed the job. Since the loose material settles to some extent, a ditch trimmer from the crew makes regular trips over the completed work until the crew leaves for another location.

Approximately eighteen miles of main and 350 services were laid in 46 working days with a crew averaging 40 men.

### Hand Tool Supplants Shovel for Small Backfilling Jobs

**B**ACKFILLING of trenches by the shovel method has long been recognized as an inefficient way of doing this work and a number of mechanical backfillers are on the market, several varieties of these backfillers having been used by the Portland Gas and Coke Company with considerable success. A large proportion of our work consists, however, of isolated small jobs on which the total amount of backfilling work involved is not sufficient to allow use of any of the mechanical equipment available. Attempts have, therefore, been made to devise a hand-backfilling tool which will do the work more efficiently than shovels.

The accompanying photographs illustrate the latest model of a backfilling tool devised by A. R. McLean, a foreman of the Portland

Gas and Coke Company, as a result of considerable experiment during the operation of his crew. This tool consists merely of a plate to which is attached an ordinary shovel handle and a chain and rope for pulling. The handle is used principally as a guide, and the greater part of the work is done by the men pulling on the ropes. The original tool was handled

by five men and a tool of this size is still in use. However, the standard size which has now been adopted is that shown in the photographs. This tool is operated by three men, one on the handle and two on the ropes. It has been found that 80 per cent more work can be done with this tool than by the former methods in use.

## Making Trouble to Order

### Puzzle Room Offers Practical Instruction in Locating Defective Piping

By GEORGE KIRCHMER, Brooklyn Union Gas Company

**F**OR the purpose of instructing employees engaged in meter work, the Brooklyn Union Gas Company maintains a Fitters' School of Instruction. In this school an attempt has been made to reproduce for purposes of instruction any faulty conditions of gas supply which may be found in actual existence on the district.

On the main floor of the building is found all of the piping required for an apartment house containing twenty apartments, each with three outlets for lighting and one stove outlet. Although the space available made it necessary to arrange the details in rather cramped quarters, yet each apartment is by itself and each is numbered.

One of the commonest causes for poor supply of gas is an accumulation of liquid condensation in the lowest parts of the piping. This has the effect of reducing the supply of gas, or of sealing it off entirely. In the School of Instruction men are taught how to recognize these conditions and how to remedy them.

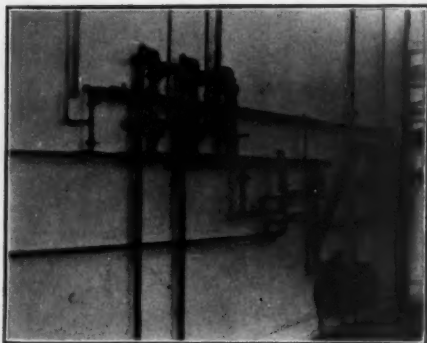
The supply piping for fourteen of the apartments already referred to is led through a room known as the "trap room." Two gas services enter this room on one side, and provision is made to introduce water into these services, thus affecting the supply of gas that comes from each service. A trapped service will naturally cause trouble in each apartment supplied by it, while trapped housepiping



A Maze to Test the Skill and Ingenuity of Neophyte Pipe-Fitters and Trouble Men.

will only affect the particular apartment in question, or possibly only one or two outlets.

In the trap room and the piping adjacent to it are provided the means for trapping either of two services or any one or more of the fourteen apartments the piping of which passes through the trap room. The pictures clearly show the slope of the pipes which produces the traps, also the funnels, which, when filled even with the top, contain enough water



Almost Any Kind of Trouble Is Apt to Occur in This Layout and Usually Does.

to cause the desired results in the system of piping.

It is also possible for the instructor to cause the housepiping to leak. This is done by opening stop cocks a predetermined amount. This leaking gas is vented out into a pipe which leads to the roof of the building.

## Gas Course Opens for Appliance Salesmen

THE Gas Appliance Association of Southern California, Los Angeles, Cal., announces the organization of a course in gas technology, available to its members, under expert direction and presented in a series of weekly lessons.

The prospectus, which has been given out by George Finney, secretary of the Association, indicates that the subject of selection, use and sale of gas appliances is to be covered thoroughly, and those who enroll for the course and "follow through" should gain some new and sharper sales weapons to use in the cause of "more and better gas appliances."

The course is to be presented under the auspices of the extension division of the University of California, in 15 consecutive weekly meetings, beginning shortly after the first of the year. Walter M. Berry, executive engineer for the California Gas Research Council, will have general direction over the course as the instructor in charge, and will be assisted by more than twenty speakers on special subjects during the sessions. For the last two years, Mr. Berry has headed the research work

of the Council, which is composed of the larger gas utilities in California.

As planned at present, the enrollment will be limited to 150 students, all of whom must be members of the Gas Appliance Association. This latter provision is stipulated by the university extension department, since the association is sponsoring the course. This limited enrollment has already been taken up, according to Mr. Finney, most of the reservations having been made by heads of firms holding membership in the association.

A \$10 fee, plus the actual cost of printing the subject matter of the course, will be the sole cost to individuals registering for the thirty hours of instruction. The lectures are to be mimeographed in advance and distributed among the students a week before the class session in which they are presented.

## CENSUS OF MANUFACTURERS

THE BUREAU OF THE CENSUS is making plans for the next biennial census of manufactures, which will cover the year 1925, as provided in the Act of Congress approved March 3, 1919.

In deciding upon the items to be covered by the census, the bureau has consulted with the representatives of various manufacturers' associations with a view to securing, as far as practicable and without making the schedule too elaborate, information which will be of value to the representatives of the several industries concerned, and at the same time furnish a record of the progress of manufactures generally throughout the United States.

Recognizing the value and importance of this work to the manufactured gas industry, we have arranged to cooperate with the bureau in collecting the data for the census.

The blank forms upon which reports should be made will be mailed by the bureau to all manufacturers about January 1, and a report will be required from each manufacturer whose gross products are valued at \$5,000 or more for the year 1925. It is to be hoped that every manufacturer concerned will have his records in such shape that he can fill out the schedule within a few days after its receipt, as the tabulation of our industry will not be made by the Bureau of Census until reports are received from all manufacturers engaged in it. We therefore urge our readers to furnish this information, in case they are manufacturers, soon after January 1 in order that we may have, as early as possible in 1926, the statistics which will show the condition and record of the gas industry for the year 1925.

If twenty million workers were each to save one dollar a week and regularly deposit this money in their own institutions, this whole civilization of ours would be changed within the next five years.

## Extra

# The Central Iowa News

## Extra

VOLUME 1

SEPTEMBER 1999

NO. 1

# WHAT EVERY WOMAN SHOULD KNOW

## VALUABLE LESSON FOR HOUSEWIVES

### INFORMATION WORTH KEEPING

[illegible]

## Phenomenal Growth of Electrical Industry

[illegible]

**Better Cooking  
In the Home**

### Concerning a Nobler Art

There are many reasons why people do not take the right kind of exercise. One reason is that they do not have the time. Another reason is that they do not have the money. A third reason is that they do not have the knowledge. A fourth reason is that they do not have the motivation. A fifth reason is that they do not have the support. A sixth reason is that they do not have the equipment. A seventh reason is that they do not have the facilities. An eighth reason is that they do not have the information. A ninth reason is that they do not have the encouragement. A tenth reason is that they do not have the challenge. A eleventh reason is that they do not have the variety. A twelfth reason is that they do not have the consistency. A thirteenth reason is that they do not have the intensity. A fourteenth reason is that they do not have the duration. A fifteenth reason is that they do not have the frequency. A sixteenth reason is that they do not have the volume. A seventeenth reason is that they do not have the quality. An eighteenth reason is that they do not have the quantity. A nineteenth reason is that they do not have the quantity. A twentieth reason is that they do not have the quantity.

## BANISH GLOOM AND GLARE IN YOUR HOME

## LATEST DEVELOPMENTS IN HOME LENDING

**Students of History**  
There are three excellent ways of studying the history of the United States—through the printed word, through the study of the past in the actual places where it took place, and through the study of the past in the actual places where it took place. The first is the most common, the second is the most interesting, and the third is the most difficult. The first is the most common, the second is the most interesting, and the third is the most difficult.

## Doubling Sales by Direct Action

## How Our Own Newspaper Guarantees Us Front Page Position and a Selected Reader List

By R. R. FREY, Central Iowa Power and Light Company

THERE were several reasons for bringing out our own newspaper, which I will enumerate below.

First, let me say that we have developed an improved sales plan, and while the idea is not entirely new, we have perfected it, I believe, and carried it out farther than any other utility. It is a combination Meter-Reader-Salesman Plan and it is certainly producing results. In June—the first month that it was in operation—we showed an increase in merchandise sales of sixty-eight per cent over the same month of last year. July was one hundred and thirty-five per cent and August about the same.

Our advertising budget for this year was based on four per cent of the anticipated merchandise sales. This allowed us about \$350 per month to divide equally among two newspapers. At our rates this does not allow for very much space if the advertising is done consistently. Our copy was buried among the ads of the department stores and other large advertisers. Consequently, we have issued a broadside for each of the last three months, and they have helped materially

to secure this volume of business. By a careful check we know that most of this business has come from these broadsides rather than the newspapers.

It occurred to the writer that if we could enlarge on the monthly broadside by putting it out in the form of a newspaper with some information and reading matter that would be of interest to women, it would produce better results than if the same amount of money was spent for newspaper advertising. It cost us \$286.75 to have twelve thousand of these printed, so this effects a small saving and will allow us to put a few announcements in the papers also.

We discontinued the mailing of circulars and broadsides, and they are all delivered by the Meter-Reader-Salesmen. These men deliver the broadside or paper personally to the customers, and at the same time give them a short selling talk on the particular appliance that we are offering. We know that the message is being read, and, in the case of this paper, that the subjects there are being discussed. We are indebted to the manufacturers for most of the copy, and there



is an almost unlimited amount of this information available through the Good Housekeeping and other institutes.

There is a special offer in the way of terms and price on practically every item that we sell. My reason for that is this. Only a small percentage of the people called upon are prospects for the one article that we usually offer in a campaign, yet all of them are prospects for some other appliance. Each Meter-Reader-Salesman reads the meters at the same houses each month. The meter record slips are bound in a book in the usual way, and on the back of each slip is a record of the connected load, both gas and electric, of that customer.

By the regular monthly calls, these men soon make friends of all the people on their routes, by making adjustments and minor repairs on appliances as they cover their route. They are not only building good will for themselves and the company, but are reducing service calls and complaints to a minimum. They soon know the kind and condition of every appliance in the home, and when they deliver the paper they know which particular appliance to concentrate on. This makes it specialized selling the same as before. Some of the advertising agencies and experts will not agree with this idea, but they are theorists, and the idea is working out from a practical standpoint and getting the business.

We are all concerned with improving our public relations and with getting our message before our consumers. I believe that this medium will make it possible to get it before them in the best possible way and at the least expense. This is my first experience in the newspaper field, and for that reason the "make-up" is not along regular newspaper lines, but this will be improved in the next and succeeding editions. This idea might not be practicable in the average property, but in this combination plan of Meter-Reader-Salesman, the means of distribution and the rest of the plan, I know that it is a good proposition.

If more of the utilities would adopt

this plan, I know that they would not only increase their merchandise sales to an appreciable extent, but they would improve their public relations and build up valuable good will. It is producing such fine results for us that I would like to see all of the utilities adopt it. I feel safe in saying that any utility which will adopt this plan will increase its merchandise sales by at least fifty per cent the first year.

### Westport Gauges Its Safety

By HARRY H. BERMAN, Consolidated Gas  
Electric Light and Power Company  
of Baltimore



Graphic Methods That Spur Interest Are Often More Effective Than Many Reams of Written Homilies and "Don't's."

OUR Westport steam station and generating plant has devised a novel means of tallying accidents. The board shown below has been placed at the entrance to the service building where every employee of the station is daily reminded of "Safety First."

As captioned, the board represents a gauge of Westport's safety work, the pressure reading being indicative of the number of accidents which result in employees losing time from their work.

The gauge went into operation August 1, 1925, and produced unusual interest among the power men. Already a concentrated drive on "Old Man Accident" is under way.

The Westport Safety Committee is composed of men who have worked steadily on accident prevention, and the plant record shows fine results of their efforts. While several serious accidents occurred early in the year, the recent months have been devoid of truly serious mishaps.

"Heads Up Will Keep Pressure Up" has been adopted by the committee as the challenge against accidents, and the slogan embraces a full meaning of the safety movement in Westport Station.

# Practical Considerations of Home Service

## Duties of Supervisor to Educate, Sell and Solve Domestic Problems of the Customer

By PAULINE L. ROHRS, Associated Gas and Electric Company



Pauline L. Rohrs

THE home problems ever confronting the home maker are seldom new, but with the improvements made and progress of our scientific world today over the old ways of doing things, namely, in use of gas and electricity even

over the first appliances manufactured, we readily understand the need of helping in the use of these, not only for their own benefit, but for ours as a public utility in promoting good will and building up the sale of these commodities.

What one housewife may term economy, another may look upon as very extravagant. On the other hand, a very extravagant idea may be economy. We never know, so diplomacy must be used in obtaining the viewpoint of our customers and working in conjunction with them. Customers rightfully expect service and results for their money—we can not sell and then forget them.

Housewives may talk these problems over together, but they never reach a real decision. They have gradually come to seek advice and suggestions from the companies who serve them. It is only when we, as a company, have done our duty well, that we may expect satisfied customers.

Therefore, in recent years our various companies, both large and small, have been employing women with special training in patience, sympathy and a keen sense of both home conditions and the women who maintain them—women who can step into any home when called and

adapt themselves to such conditions, even though it be a question of how to make pastry, if necessary using a milk bottle or glass jar to roll the pie crust. The customer must not be left in an embarrassed position of making apologies. The finished product should be dwelt upon to such an extent that she may forget the utensils used.

We all know that many housewives will complain about a gas or electric bill when received and, when the husband comes home, this constant song of complaint acts on his strained nerves to such an extent that, if it is his business to pay the bill, by the time he reaches the local office he is a regular grizzly bear. He starts in on the cashier and finishes up with the bookkeeper, then goes out talking to himself. His vengeance not being spent, he tells his grievance to everyone with whom he comes in contact. This condition is being eliminated more and more each day, and Home Service is largely responsible for this change.

When the home service supervisor calls or is called to one of these homes, very often she finds water boiling in a small pan over the giant burner, gas flames licking the sides of the pan to the very brim. The housewife fails to realize the waste in such a case. How much more economical would it be for her to use a kettle or utensil sufficiently large to cover the entire burner, thereby using every calorie of heat.

When water once boils, it may be boiled until all is evaporated, for temperature will not go higher than the boiling point  $212^{\circ}$ . The simmering burner or even the pilot light will keep water hot after once boiling.

Again, we meet customers at card

parties and social gatherings, who perhaps forget we are "home service supervisors." They laughingly admit putting water on to heat for dish washing and let it boil away while they read a good story.

How precious few of our people realize that the gas meter is a very perfect piece of mechanism and sings merrily along,



**Miss Rohrs in Action Evidently Believes in Keeping Her Work Bench Free from Clutter.**

registering both gas used and gas wasted. It never misses, neither does the electric meter.

A set of triplicate cooking utensils at an approximate cost of \$2.75 will cook an entire meal over one burner, while otherwise we would use three burners to secure this result.

There are many who will allow food to cook furiously without reducing the flame, many who do not know that bread should be started to bake with a high flame and the flame reduced; cake with a low flame and heat increased. This is especially true when no oven heat regulator is on the range.

Again, we find many who light two gas burners, placing an article of food over one, and returning to prepare potatoes or some other vegetable to place over the second, failing to realize that a match is cheaper than gas. While these things

are seemingly trivial, yet they are largely the cause of complaints from the public and complaints for which they must pay.

We try very hard to educate our patrons to ask us for desired information. No one is better fitted to answer than our utility employees, especially home service supervisors.

The leading magazines all publish fine and instructive articles for home makers, yet it is most surprising to discover how many say, "I never read" or "I never have time." Those very people are the ones who need help the most. The home maker takes a certain pride in seeing work accomplished, as well as the public at large and our companies. It all goes for cooperation and good will. The home service supervisor must at all times be ready to help the customer, keeping this in mind.

There are many who feel rates are too high, yet, when the cost of constructing transmission lines and gas mains of substantial type are considered, and the buying up of right-of-way, to say nothing of the actual cost of transmission and cost of labor and material, they look at these things in an entirely different light and say, "Oh, I had never thought of that." It is simply a case of educating the public in these things which so vitally concern our business in such a way that good feeling and general good will may be promoted.

Home service in most cases means dealing directly with the woman in the home. It includes the servicing and minor maintenance of both gas and electric appliances and instruction in the care and more economical use of these articles.

For the benefit of customers, it is well to keep a file of recipes, party plans and suggestions that they may have at any time for the asking. Upon leaving the office each morning, it is a good plan for the home service supervisor to have with her a number of cards, which have been addressographed according to the meter routines. On these cards, the leading gas and chief load building appliances should

be listed. A systematic survey of each street can be made. In this way any source of complaint on either service is readily found and noted on the back of these cards. These in turn should be turned in to the local superintendent each evening and work orders made out to cover such complaints. These cards will serve a three-fold purpose. First, giving a proper and business-like approach for the supervisor in addressing the customer by name. Second, furnishing a permanent file of the appliances they have and whether or not the house is wired for electricity or piped for gas. Third, in going over the appliances used, you find out whether or not these are in good repair or simply kept as a wall flower. In this way, you are able to secure a list of prospects for appliance salesmen.

In calling on any customers, if an electric iron cord is burned through, it is well to make the repair at once. If a minor adjustment is necessary on a gas stove, the home service supervisor can usually do this. A small kit of tools should be carried. We suggest it contain at least a small screw driver, gas pliers and wire snips. These favors leave customers highly pleased and ready to tell their friends.

It will be found in many cases where the supervisor has called upon a customer, this customer will request that she call on some relatives or friends in the same locality. You will frequently find that the customers already served have notified them by telephone of Home Service and they are awaiting a visit.

It is needless to dwell upon the appreciation shown Home Service, for quite naturally people will buy where service is the chief watchword. Courtesy and a smile from every member of our companies is a real necessity and make for a more pleasant and lasting public relationship.

In order to better assist Home Service work, it would be a fine thing if all companies could have a lady on the sales floor, one with ideas of store keeping and stock arrangement, who could arrange a

window trim or assist the salesman in doing so. A lady could meet the customers and attend to the sales of lamps or small appliances while the salesman is in the field on other sales work. When people enter a store, they like to be served promptly and by a person who can answer their questions. It takes the feminine touch to make for real appearance, and unless we have a clean, well-kept store with nicely trimmed windows, clean cases with polished appliances, the path will be much more difficult for our work. We feel that customers may mention these things that may have been neglected when we call.

No customer enjoys looking at a dusty stove, a tarnished appliance or a sales person who fails to be pleasant or courteous. Unit display should be used wherever or whenever it will prove most effective either in windows or cases.

The following is a little poem which hangs over the desk of a prominent business man and reads:

*"If I possessed a shop or store,  
I'd drive the grouches off my floor,  
I'd never let some gloomy guy  
Offend the folks who come to buy,  
I'd never keep a boy or clerk  
With mental tooth ache at his work,  
Nor let a man who draws my pay,  
Drive customers of mine away."*

A nook could be arranged somewhere on the sales floor so that from one to three customers might be seated while they are being shown appliances. One can better gain their attention and interest when they are seated. If only a few of these conditions can be worked out, it will help both the company and the home service supervisors.

After working in a town for a time one gains an idea of financial conditions; also an idea of prices the bulk of the people are able to pay for appliances they wish. Men as a rule pay whatever price may be asked, giving little thought to the matter, but women usually make up their minds to approximately what they can pay; then set out to find that price, quality considered.



It would be a nice help to Home Service if a little gift table were kept in each office. The articles hereon, such as small lamps, irons, percolators, curling irons and the like to be displayed on a table covered with plush or tapestry. It brings out much better the richness of the display.

Many times we have questions concerning gifts. How nice it would be to be able to send them to the gift table! You no doubt have thought of these things at various times, but did you ever think of them in connection with Home Service?

Arrangement and display are the models by which our companies are judged. Let us set a good example—white uniforms might be worn by the ladies employed on the sales floor as well as by home service supervisors. The supervisor can gain a much better idea of the needs of her community by holding cooking classes once a week. At these classes questions may be brought up and discussed which prove of lasting benefit to all.

A question box may be placed on the sales floor of the office for the convenience of the public, and all questions brought in could be discussed and answered the following week.

During discount period, it is well for the home service supervisor to stay in the office more to assist in answering questions.

We plan to have some recipes printed to give out to our customers, even to some of those in the rural districts, who may wish to ask the why of poor pie crust or how to mix a salad or cake. Let us show them. It is simple and binds our customers so much closer. They will return the favor. These rural people may sometime move into our cities, or we may have lines close enough eventually to obtain them as customers.

We sincerely feel that all companies who are not conducting a Home Service

Department would find it well worth while giving consideration to, as it will more than pay you, not only from a revenue standpoint, but from the public relationship you gain.

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## THE LETTER BOX

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*To the Editor of the A. G. A. MONTHLY:—*

May I add something to what Mr. Barnum has said so well about Charles H. Nettleton? I became acquainted with him in 1875 and entered his employment the following year. He came to Derby, Conn., my home town, in 1871, a stranger to most of the people there—a man 21 years old—to make a gas company. He built the plant, he laid the mains, he read the meters, he made out the bills, and collected the money, but he did more than that. He put the breath of life into a struggling company and long before he died it had become a valuable property and he, one of the foremost citizens of the city. Early in his career he gave talks on gas at social gatherings in the community he supplied with gas and made great efforts to get his consumers to use gas stoves. So well did he succeed in doing it that today the Derby Gas Company's record shows one stove for each gas meter in use or one stove for each four inhabitants of the community served. But in his busy life he found time to teach many young men by precept and example the principles of the gas business, and *then* he found places for those young men in other companies and those of them who are living are filling places of responsibility in the gas and electrical world.

To all the positions he filled he brought a keen and inquiring mind and the voice and actions of a gentleman. The key note of Charles H. Nettleton's life was service—service to the community in which he lived—service to the consumers and service to his stockholders and so well did he serve those interests he wore himself out and died as he had lived, in service. He was a man whom it was good to know.

Yours truly,  
HENRY S. WHIPPLE,  
Rockford, Ill.

December 11, 1925.

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The gas house gang has received notice to change its headquarters. More than a score of the leading gas companies of the country have taken steps to improve the appearance of their properties, particularly around plants and district storage holders.



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## THE TIDE OF MEN AND AFFAIRS

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RUFUS R. RAND, JR., vice-president of the Minneapolis Gas Light Company, has been elected president of the Minnesota Tree Society, recently formed to make Minnesota's "tree crop" a regular, successful money-making crop, and "to assure adequate reforestation of our commonwealth and protection of our growing forests."

CHARLES A. HARRISON, former gas distribution engineer of the Public Service Company of Colorado, has been promoted as assistant to the general superintendent, V. L. Board, it has been announced by Clare N. Stannard, vice-president and general manager of the company. Mr. Harrison's new duties will be general assistant. He will have direct charge of the tax, rate, claims, personnel, transportation and other miscellaneous departments coming under the jurisdiction of the general superintendent, who has general charge of gas and electric operations of the company.

E. M. ADDIS, general manager of the Wallingford Gas Light Company, has been elected president and a member of the directorate. Mr. Addis also continues as general manager.

LEIGH WORTHING, experimental engineer of the Detroit City Gas Company, is reported to have made No. 8 hole on the south course of the Detroit Golf Club "in one" recently. Witnesses included L. B. Young, general manager and J. W. Batten, assistant general manager of the Detroit company; and Walter Beckjord, engineer of the American Light & Traction Company.

WILLIAM MILBURY, head of the sales office division of the Portland Gas and Coke Company, Portland, Oregon, has also qualified for life membership in the International "Hole in One" Club, we are reliably informed.

HENRY H. JONES, formerly vice-president in charge of operation of the Northern States Power Company, has been elected vice-president and general manager of the Western States Gas and Electric Company, and vice-president of the California-Oregon Power Company, with headquarters at Stockton, Cal.

MARY E. DILLON, vice-president and general manager of the Brooklyn Borough Gas Company, Coney Island, N. Y., was recently the guest of honor at a testimonial dinner given by the Coney Island Chamber of Commerce. Five hundred persons, including employees of the company, took part in the tribute.

C. E. FAHRBEY, of Ottumwa, Ia., has been appointed manager of the Consumers Light and Power Company, with headquarters at Ardmore, Oklahoma.

WILLIAM J. BERTKE is now the Sioux City Gas and Electric Company's delegate to the A. G. A. in place of the late L. L. Kellogg, formerly president of that company.

L. P. PERRY, formerly general commercial manager of the Central Hudson Gas and Electric Company, has been transferred as commercial manager of the Metropolitan Edison Company at Reading, Pa.

R. B. RICHARDSON, manager of the Peoples Gas Company of Glassboro, N. J., is the new delegate of his company to the A. G. A.

C. H. QUACKENBUSH is now manager of the Wilmington Gas Company of Delaware, replacing H. S. Schutt.

M. J. BARRY, formerly secretary of the Wyandotte County Gas Company, has been made secretary of the Kansas City Gas Company of Missouri.

W. H. JEFFERSON, formerly eastern representative of the Cutler-Hammer Manufacturing Company, has been made director of the Cambridge Instrument Company, Inc.

WILLIAM L. DIEHL, formerly with the Consolidated Gas Company of New York, has been transferred to the Bronx Gas and Electric Company.

WILLIAM F. BARRETT, formerly vice-president of the Linde Air Products Company, has been made president of that organization.

ROBERT OLCOTT was elected president and William G. Furlong, vice-president and general manager of the Municipal Gas Company of Albany, at the annual election recently. Mr. Olcott succeeds Nicholas F. Brady. Mr. Furlong succeeds Carl H. Graf, who resigned owing to ill health.

D. P. ALLEN, superintendent of distribution for the Des Moines Gas Company, has been promoted to a position in the Philadelphia offices of the United Gas Improvement Company, of which the local company is a subsidiary. Mr. Allen has been with the local organization for ten years.

GEORGE F. WAGNER has resigned as treasurer of the Lowell Gas Light Company, Lowell, Mass.

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## NEW COMPANIES ACQUIRED

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THE IOWA GAS AND ELECTRIC COMPANY by the Iowa Southern Utilities Company.

THE BENTON HARBOR-ST. JOSEPH GAS AND FUEL COMPANY and the South Haven Gas Company by the Michigan Fuel and Light Company.

SOUTHERN MINNESOTA GAS AND ELECTRIC COMPANY and the New Ulm Gas Company by the Interstate Power Company.

MERIDIAN LIGHT AND RAILWAY COMPANY and the Hattiesburg Traction Company in consolidation by the Mississippi Power Company.

GRAND HAVEN GAS COMPANY and the Monroe Gas Light and Fuel Company (Mich.) by the Central States Utility Company.

IOWA PUBLIC SERVICE COMPANY of Ames, Iowa, by the Iowa Railway and Light Company.

YORK GAS COMPANY, York, Pa., by the Pennsylvania Gas and Electric Company.

GOSHEN GAS COMPANY, Goshen, Ind., by the Interstate Public Service Company.

CHEROKEE GAS COMPANY of Cherokee, Ia., by the Northwestern Light and Power Company.

IONIA GAS COMPANY, Ionia, and New Grand Ledge Gas Company, Grand Ledge, Michigan, by the Consumers Power Company.

TOWANDA GAS AND ELECTRIC COMPANY, Towanda, Pa., by the Northern Pennsylvania Power Company.

ST. PAUL GAS LIGHT COMPANY by the Northern States Power Company.

HUNTSVILLE GAS COMPANY, Huntsville, Ala., by the Federated Utilities Company, Inc.

GENESEO GAS LIGHT COMPANY by the Rochester Gas and Electric Company, Rochester, N. Y.

DANVILLE, N. Y., at a public meeting, recently agreed to the proposal of the New York Central Electric Corporation to supply the village with manufactured gas in connection with a limited supply of natural gas.

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## OPPORTUNITIES ABROAD

THE BUREAU of Foreign and Domestic Commerce, Washington, D. C., is in receipt of a call for a prospective agency for the sale of equipment for gas works, especially retorts and similar installation material, from Copenhagen, Denmark. American firms duly registered on the Exporters' Index of the Department of Commerce may obtain reserved information on this subject by referring to Trade Opportunity 18150 at any of the district offices of the bureau.

ROBERT W. HEINGARTNER, American consul at Vienna, reports that a very brisk business is being done in Austria in the stove line. This applies especially to gas heaters, since this type is increasing in popularity. There is also a very good market here for sheet and cast iron stoves. Domestic factories aid materially in supplying this demand, but they are meeting with strong competition on the part of Germany and Czechoslovakia. A considerable part of Austria's stove production goes to Yugoslavia and the Balkans.

E. VERNE RICHARDSON, American consul at Pernambuco, Brazil, reports that legislation authorizing loans under certain conditions to enterprises contracting with municipal prefectures for various public services has recently been proposed in the Pernambuco Senate, and should, if adopted by Congress, go far

toward a greater development of public utilities in various municipalities of the State.

AN IMPORTANT CITY in South America, at present poorly served by a foreign-owned electric company, is informally reported as being favorably inclined toward the granting of a franchise to some new corporation desiring to undertake the construction and operation of a modern gas and electric system. Further details can be obtained from the Electrical Equipment Division of the Department of Commerce by referring to Consular Report No. 151487.

TWO COMPLETE coal handling plants with mechanical equipment are required by a prospective purchaser in Melbourne, Australia. Interested parties are requested to refer to Trade Opportunity 18169, Bureau of Foreign and Domestic Commerce.

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## OUR NEW MEMBERS

### MANUFACTURERS

American Cast Iron Pipe Company, Birmingham, Ala.

Home Incinerator Company, Milwaukee, Wis.

### ACTIVE MEMBERS

Linzer, Charles Roy, Savannah Gas Co., Savannah, Ga.

McCleary, Joseph Franklin, Consolidated Gas Electric Light & Power Co., Baltimore, Md.

McArthur, I. H., Mississippi Power Co., Meridian, Miss.

Shearer, R. M., Mississippi Power Co., Hattiesburg, Miss.

Gibson, Jasper M., Charles H. Tenney & Co., Boston, Mass.

Hallett, William Lawson, Walker & Pratt Mfg. Co., Boston, Mass.

Peak, Leta M., The North Eastern Oil & Gas Co., Conneaut, Ohio.

Huestis, Leon D., The Portsmouth By-Product Coke Co., Portsmouth, Ohio.

McLean, John Duncan, Westchester Lighting Co., Yonkers, N. Y.

Weinberg, I. Hartley, Equitable Gas Co., Pittsburgh, Pa.

Weedon, John F., The Peoples Gas Light & Coke Co., Chicago, Ill.

Hatch, Maurice L., Arlington Gas Light Co., Arlington, Mass.

Cutcheon, Fred R., St. Joseph Gas Co., St. Joseph, Mo.

Grier, Wm. S., Automatic Radiation Co., Philadelphia, Pa.

Laager, Creston E., Consolidated Gas Co. of N. Y., New York, N. Y.

Belyea, Arthur Russell, Consolidated Gas Co. of N. Y., New York, N. Y.

Woodard, Harry J., Georgia Railway & Power Co., Atlanta, Ga.

Karrick, Lewis C., U. S. Bureau of Mines, Pittsburgh, Pa.

## Affiliated Association Activities

### Pennsylvania Gas Association

The program of the mid-year meeting of this association, held at the Hotel Casey, Scranton, Pa., Dec. 7, 1925, was both inspirational and informative, and was thoroughly enjoyed by the large number in attendance. Immediately after bringing the gathering to order, President W. G. Murfit called upon Worthington Scranton, president of the Hyde Park Gas Co., of Scranton, and grandson of the city's founder, who after extending a whole-hearted welcome, briefly described the peculiar local distribution problems caused by mining operations under the city and how his company has effectively coped with the difficulties. Mr. Scranton said he believed the industry needs more flexible rates and heating value standards together with more intensive sales efforts and advertising. The chairman of the Membership Committee, W. H. Seaman, reported a healthy growth in new memberships, six gas companies and 186 individuals. The chairmen of the Committees on Public Relations and Co-operation with Educational Institutions, H. H. Ganser and W. G. Gribbel, respectively, presented reports which indicated activity by both these committees. The Entertainment Committee chairman, M. N. Bailey, requested the members to express opinion as to a summer outing.

The address on "Home Economics" by Miss Marion Brainard, which followed, was delightfully instructive. She stated it the duty of Home Service Departments to teach the housewife to use gas more effectively and economically, which is accomplished by following up installations of new gas ranges, speaking before women's clubs, teaching school children, etc.

The paper on "Methods of Training and Compensating Salesmen in Small Companies", by L. S. White, is an outstanding contribution on this subject. In hiring men for salesmen, or "representatives", as they are called in his company, Mr. White said preference is given to the young married man with no sales experience who has a desire to make the job his life's work. This paper, by the unanimous request of those present, will be printed and distributed by the Association.

The paper on "Automatic House Heating", by A. L. Klees, contained a description of the use of the Doherty Gas-Oil Burner, its advantages and results obtained in its use. Further information on the subject was brought out in the discussion.

The meeting continued after a luncheon at which those present were guests of the Hyde Park Gas Company. A splendid address by Major Durkan of Scranton emphasized the need throughout industry of service, not only for pleasure and compensation, but service for duty to mankind as well. Mr. W. A. Allison,

of the Pennsylvania Public Service Commission, then addressed the convention in an appeal for greater consideration of scientific rate structure. The address by Rt. Rev. Samuel Steinmetz, which followed, was of an inspirational character and was splendidly delivered. The service engineer of the American Gas Association, A. Gordon King, presented the greetings and told of the more important activities of the national body.

The remainder of the afternoon was taken up with the following discussions: "Common Use of Ditch by Water and Gas Pipes", led by H. N. Squier and E. G. Boyer; "Tar Disposal by Small Plants", by W. C. Rivenburg, Thomas Lewis and S. B. Thompson; and "Bookkeeping Without Books", by W. H. German.

The officers of the Pennsylvania Gas Association are: president, W. G. Murfit; first vice-president, R. C. Cornish; second vice-president, Joseph Jeffrey; and secretary-treasurer, G. L. Cullen.

### Pacific Coast Gas Association

The Pacific Coast Gas Association held its Northern California regional meeting in San Francisco on November 19 and 20. This meeting served a double purpose, as the entire day of the 19th was devoted to organization meetings of the association's committees, there being over one hundred committee men in attendance at some dozen committee meetings held in various parts of the city. It also afforded an opportunity for a meeting of the board of directors and for the newly-formed Committee on Gas Appliance Certification.

One of the most important topics considered by the board was the feasibility of holding an elaborate gas appliance exhibit in connection with the next convention of the association in Los Angeles next September. Complete plans for financing this exhibit were presented by B. S. Pedersen, chairman of the Gas Appliance Dealers' Committee, and, while no positive action was taken by the board, the matter was placed in the hands of a competent committee to study the plans and to report upon their feasibility. The exhibit, if held, will be open to the public, as it is confidently predicted that the display will be inspected by several hundred thousand persons.

The board also approved the printing of a gas appliance manual upon which a committee of the association has been working for more than two years. This manual will be printed at once and sold to members of the association at cost.

Final decision on the model gas ordinance, which has been prepared by a committee of the association, was withheld until the next meeting of the association, which will take place in San Diego some time in February.

On November 20, E. L. Hall read a paper

which contributed to the study being conducted by the Pacific Coast gas companies on the feasibility of converting part of their gas producing plant to coal gas or water gas. A. F. Bridge described what his company is doing in increasing the load factor of its long transmission lines by the installation of high pressure storage stations at strategic points. H. T. Terry described the accounting methods necessary in handling a large scale installment sales campaign of appliances. E. G. McCann told of the trend in large corporations towards definite methods of recruiting their personnel.

The Commercial Section presented a paper, Harry L. Warren describing the many very large gas-fired heating systems being installed in the city of Los Angeles. Probably nowhere else in the country is gas heating conducted on such a large scale.

On the evening of the 20th an informal dinner was held at the Commercial Club for which a special program of entertainment had been prepared by Frank Talcott.

#### New Jersey Gas Association

The Mid-Year meeting of this association will be held at the Walt Whitman Hotel, Camden, N. J., Friday, January 22, at 10 a.m. Secretary R. A. Koehler announces the following promising papers and addresses for the meeting: "The History and Development of the Gas Meter", by W. Griffin Gribbel; "Bituminous Coal for Generator Fuel", by H. H. Ferris; "Changing the Gas Buying Habits of America", by Dr. R. E. Rindfueh; "Merchandising Your Product", by Robinson Murray; and "Selling Gas for Industrial Purposes", by J. P. Leinroth. Mr. Henry D. Whitcomb, president of the New Jersey Gas Association, will preside at this meeting.

#### New England Association of Gas Engineers

The 56th Annual Convention of this association will be held in the Hotel Somerset, Boston, Mass., on February 24 and 25. This hotel has facilities which will permit special lunches being served to the members in a group each day of the convention. President C. N. Cheney will open the session, and addresses will be made by H. C. Abell, president of the American Gas Association, and Prof. Philip Cabot, of the Harvard School of Business Administration. Papers are being prepared on "Purification by Electrical Precipitation" and "The Use of Low Pressure Steam in Gas Plants."

The matter of consolidating all of the individual New England associations into one unit to be called The New England Gas Association will probably be taken up and settled at this convention. For that reason only a short program is being prepared, as it is expected that considerable time will be taken in the organization of the new association. There will be the usual "question box" feature, which is so popular in this association.

With the secretary, J. L. Tudbury, again directing arrangements for the convention of the New England Association of Gas Engi-

neers, assurance is given for another of the splendid gatherings for which this association is noted.

#### Southwestern Public Service Association

Through action of a recent meeting of the executive committee of this association their 1926 convention will again be held jointly with the Southwestern Geographic Division of the N. E. L. A. at the Hotel Galvez, Galveston, Texas, April 13 to 16, 1926.

A general convention committee has been appointed consisting of C. J. Griffith, P. E. Nicholls, V. E. Armstrong, H. E. Danner, H. B. Flowers, J. C. Kennedy, J. G. Haltzclaw, W. W. Holden, F. J. Insull, A. E. Stephan, J. L. Longino, H. R. Nickerson, S. J. Ballinger and E. N. Willis. The Local Arrangements Committee at Galveston, who will work under the direction of the general committee, consists of P. E. Nicholls, D. E. Hegarty and R. G. Carroll.

#### Iowa District Gas Association

H. R. Sterrett, secretary-treasurer of the Iowa District Gas Association, has announced that their twenty-first annual convention will be held on Wednesday, Thursday and Friday, April 21, 22, and 23, 1926. Headquarters will be at the Hotel Fort Des Moines, Des Moines, Iowa. Plans are already under way to make this the outstanding convention in the history of this association.

#### Eastern States Gas Conference

The executive committee of the Conference held a meeting in Philadelphia on Nov. 30, at which the president, W. Griffin Gribbel, presided. It was decided that the annual meeting would be held in the Hotel Bellevue Stratford, Philadelphia, April 21 and 22, 1926. A program committee, with J. B. Myers as chairman, was appointed. Several other committees were also named at this meeting.

### UTILITY PURCHASING AGENTS MEET THIS MONTH

ON JANUARY 28TH AND 29TH the Public Utility Group of the National Association of Purchasing Agents will convene at Schenectady, N. Y.

The program, as tentatively agreed upon, will begin with a forenoon session on January 28th, followed by an informal luncheon and a "Purchasing Symposium" in the afternoon. In the evening there will be a dinner and general get-together meeting.

On the following day there will be a tour of inspection of some department of the General Electric plant. Efforts are being made to secure speakers of note to address the general sessions.

The decision to hold the conference at this place and date was made at a meeting of the executive committee of the group in the Hotel Commodore, New York, on November 7th.



## Provisions Regarding Income Taxes of Interest to Gas Corporations

### Affiliations

By W. SAREL LYNNE, C. P. A.

THE Income Tax Act of 1918 and the subsequent acts provide that two or more corporations shall be deemed to be affiliated if one corporation owns directly, or controls through closely affiliated interests, all the stock of the others, or if substantially all the stock of two or more corporations is owned or controlled by the same interests.

The object of this provision is to prevent the evasion of taxation by the formation of subsidiary corporations, or by using a corporation already in existence, by means of shifting income through various bookkeeping entries. The principle of levying taxation according to true net income and invested capital of a single business enterprise, although the transactions of such a business are conducted by one or more corporations, is made effective by these provisions also. The justice and equity of the effect of this provision is obvious, whether it is applied to taxing an enterprise as a whole, or whether it is applied to taxing income transferred for purposes of evading taxation.

The Treasury Department has interpreted the provisions of the statutes and has issued regulations from time to time as to what constitutes grounds for affiliation.

It is the purpose of this article to emphasize and direct attention to the fact that decisions made by the Board of Tax Appeals have brought about a very material change in the interpretation of what is meant by control. The Commissioner has published his acceptance of a

decision by the Board of Tax Appeals in the case of *Isse Koch & Co., Inc.* In this case it was decided that legal control, that is control which is legally enforceable, is not the only control intended by statute. Moral control, such as that exercised by a husband over a wife, a father over a son or daughter, an employer over an employee, is now admitted to be control for the purpose of deciding a question of affiliation.

The statute governing the question of consolidated returns was materially different in the 1917 Act, and, as probably most of these cases are now outlawed, no reference is made to these provisions.

In view of the change of the interpretation of the statutes by this and recent rulings, it is probable that the Treasury Department will review the facts in all of the cases where affiliation has already been the subject of inquiry. The writer knows personally of several instances where a questionnaire has been received by a corporation whose affiliation questions had been decided prior to the formation of the Board of Tax Appeals. Should such a review be made general, then there will doubtless be many affiliation questions re-opened and a reversal of decisions already made by the Treasury Department and accepted by the taxpayer. The re-examination of claims for affiliation already decided may be requested by the taxpayer also. Each corporation should make a re-examination of the facts of its own particular case before finally deciding whether or not it shall pursue further a claim for affiliation



which had previously been denied. Also, it would be an advantage to be in a position of knowing the material facts, should the Treasury Department decide to re-open its case.

The facts surrounding each individual case are those which determine the issues involved, and the general principles on which a determination is made are being established slowly. Each decision by the Board of Tax Appeals where affiliation is in question helps to clarify the problems.

On November 22, 1924, there was a general hearing convened at Washington at which all taxpayers who were interested in the question of affiliation, and their counsel, were permitted to attend and to be heard. The subject was of widespread interest and a large and representative gathering resulted. A number of points were presented and considerable information was given to the members of the board who were present. Arising out of this general hearing, and out of subsequent cases and decisions, there will undoubtedly crystallize a clear and concise application of the provisions made by the statutes as to what constitutes an affiliation.

The department will probably provide for re-opening cases already closed to conform with the decisions of the Board of Tax Appeals to which the Commissioner has agreed, and this applies to all questions and is not confined to the revision which has already taken place in the matter of consolidated returns; but the re-opening of cases will be granted or rejected upon application being made, and it will be necessary that the facts of each case be very closely analogous to specific decisions of the Board of Tax Appeals.

If the Treasury Department holds that two or more corporations are affiliated, then consolidated returns for income tax purposes must be made. Where consolidation is required, the subsidiary corporations must adopt the methods of accounting used by the main or parent company.

Although varying methods of bookkeeping may have been adopted by subsidiary corporations, and options granted under income procedure may have been exercised differently, it is compulsory upon affiliation being established that all the corporations so grouped shall make up the final statement as though all the books had been kept in accordance with the methods and options adopted by the parent company.

Should the Treasury Department reverse its decision on an affiliation question and demand a consolidated return, then, if a subsidiary corporation has exercised any option, differently from the main company, it becomes necessary to reconstruct the books and accounts of the subsidiary to correspond with the methods adopted by the parent. Also, should it be desired to re-open an affiliation question, due consideration must be given to the effect upon the final accounting if a change of method is necessary for one or more of the subsidiary corporations for which affiliation may be claimed.

In connection with the above, and due to the present plan of decentralization of examinations by the department, and the fact that all or practically all audits will be made in the field in the future, it becomes even more important that the taxpayer fortify himself with capable assistance on the spot to call upon when the examination is being made.

The problems involved in these questions are far-reaching, and every care should be used to ascertain whether a taxpayer has a claim for reconsideration of affiliation in order that he may obtain the relief granted to him by statute.

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The use of city gas in child incubators has secured a fighting chance for more than 5,000 infants in one institution alone, according to Dr. Martin Couney of the famous Coney Island Infantorium.

Gas, supplying proper, steady controlled heat, which is so necessary for these frail and delicate little bodies, prematurely born, is the only satisfactory method, Dr. Couney maintains.

## ACCOUNTING SECTION

DeWITT CLINTON, Chairman

H. W. HARTMAN, Secretary

ALBERT L. TOSSELL, Vice-Chairman

# Watch Your Construction Costs

## A Simple System Which Automatically Stops Leaks When They Occur

By WM. G. MERVINE, American Gas Company

**T**HE necessity for accurate construction costs, in detail, is obvious. With the establishment of the Budget Department it is imperative that engineers have at hand accurate information of the cost of doing construction work, so that in submitting estimates to the Budget Department the figures will be a little more than guesses.

The method outlined herein for obtaining detail costs, not only of construction costs, but also of maintenance costs, was developed at the Plymouth Plant of the Luzerne County Gas and Electric Corporation. Nothing novel is claimed for this method—only one entirely new form was developed; the success of the system was more in the establishment of a proper routine rather than the development of new ideas. Any one familiar with the American Gas Company accounting procedure and forms will recognize the fact that the scheme is only an adaptation of methods already in use.

**ESTIMATES AND AUTHORIZATIONS:** A detailed estimate is made up for each item of the job.

1. From this estimate the authorization is made. While the illustration is from an actual estimate for a building, the same general plan can be followed for any kind of job. It is only by setting down in such detail each item entering into a job that an approximately correct estimate can be made. As far as possible, quotations are secured from subcontractors, machinery manufacturers,

etc., to use in making the estimate. A letter system of notation was used because letters could be used corresponding to letters on the standard authorization form.

**WORK ORDERS:** Upon the proper issuing and classification of work orders rests the whole burden of obtaining correct costs. When construction engineers are brought to the realization that placing concrete, laying bricks, installing pipe, etc., is the same as any other manufacturing process, a good many of our difficulties in getting accurate costs will be eliminated. No manufacturing industry can exist without them, and there is no good reason for carrying on construction without them.

When approved authorization is received, a work order is issued for each separate item appearing on the detailed estimate; e.g., if, for a concreting job, there is a work order for "Formwork," "Labor Mixing Concrete," "Concrete Materials" and so on. If the job is small and costs are not required nor feasible for that job, work orders are issued only for the divisions of the job as shown on authorization; e.g., if a pump is to be installed, there will be a work order for "Foundation," "Piping," "Setting Pump," etc.

It is not possible to set a hard and fast rule just when the work orders shall be issued according to the first method or the second but it is well to keep in mind that it is better to err in having too much

LUXEMBEURG COUNTY GAS AND ELECTRIC CO.				
PLYMOUTH PLANT				
Date Invoiced: <u>10/2/34</u>	STOCKROOM		Filing No. _____	
By: <u>W.V. Hayes</u>	P.O. Order No. <u>2358 33-1</u>			
To: <u>A.J. Sargent</u>				
Account <u>R.T. Kline &amp; Material R-S Inham R-4</u>				
For Street and reserve frame Kingston Substation.				
MATERIAL	QUANTITIES	Total	Unit	Cost
Soft Steel	258	258	0.00	00
4 As Hts	2	2	01	04
Armoured Wire	24	24	10	15
				2.19

LEECHES COUNTY GAS AND ELECTRIC CO.  
 PLUMMER PLANT

Date Invoiced: 12/2/04      OFFICE      Filing No. \_\_\_\_\_

By: W.W. Dwyer      P.O. Order No. 2288 2002

To: 4. J. Dardant

Account: E. I. 5168 R- Material Bull Lakey Sub  
For Erect and remove frame Kingston Substation.

WORKMAN	DATE	TIME	AMOUNT
	<u>Atkinson's Station</u>		
Dec 9	9	1 60	6.00
10	9 9 9 9 9	14 100	67.00
10	9	9 65	6.65
	<u>12 9 9</u>	<u>25 50</u>	<u>12.50</u>
		90	94.65
	<u>Grand Total</u>	<u>33 65</u>	<u>120.15</u>
	<u>To 1/2 Atkinson's Station</u>		
	<u>Grand Total</u>		
	<u>6 1/2 10 10 13 20 25</u>		
Dec 1	1 1 9 9 9 9 9 9	65 10	51.00
	9 9 9 9 9 9 9 9	65 10	55.00
15	9 9 9 9 9 9 9 9	65 10	55.00
16	9 9 9 9 9 9 9 9	65 60	55.60
17	9 9 9 9 9 9 9 9	65 60	55.60
		240	2 19.00
	<u>Contractors</u>		
	<u>To 1/2 Atkinson's Station</u>		
	<u>Grand Total</u>		<u>216.31</u>
	<u>Spice Normal Power Co</u>		
	<u>12 9</u>		
Dec 7	12 9	18 10	18.00
18	12 9	18 60	18.60
			<u>37.60</u>
	<u>Contractors</u>		
	<u>Total 1/2 Atkinson's Station</u>		<u>37.60</u>

FIG. 1.

**Reproduction of an Actual Completed Work Order. Four Copies of Each Order Are Issued.**

than too little detail. The work order form is shown in Figure 1. This is a reproduction of an actual completed work order. Four copies of each order are issued, one for engineer or superintendent, one for job foreman, one for office, one for storeroom. Each work order carries the authorization number and subdivision letter and its own individual work order number. Thus responsibility for proper classification is placed on the clerk, where it properly belongs.

The work orders are issued semi-monthly, and in case work is not completed on an order, it is taken up, and a new one, with new number, is issued. In this way costs can be obtained twice a month. The superintendent's copy is for reference and filing; the foreman's copy is his authority to proceed with the item of work specified; on the office copy the clerk tabulates the labor cost from time turned in daily by the foreman or timekeeper; likewise the storekeeper tabulates the materials issued by him and their cost on his copy. The office copy and the storekeeper's copy form a complete record of the cost of the work called for and are filed together in the office for the checking of invoices and tabulation of the monthly detail sheets required by our Philadelphia office.

**THE STOREROOM:** Second only in importance to the work order system is a properly organized and functioning store-keeping system. After a good deal of experimenting the following rule was established: All material, the nature of which is such that it can be used for more than one sub-division of the work—e.g., sand, cement, pipe, valves—must be ordered into the storeroom and carried on the books, and only machinery and similar equipment can be charged directly to authorization.

It is not the purpose of this article to describe a system of storeroom keep-

ing. On this particular job the system and forms used were the same as used by all subsidiary companies of the American Gas Company. Needless to say, an accurate record must be kept of all materials coming in and going out of storeroom. In the case of cement, sand and stone and other bulk materials, which cannot always be stored under cover, the storekeeper is dependent on the engineer's estimate for materials taken for use each day.

Materials are purchased either on foreign or local order on engineer's requisition. These orders are written at the job by storekeeper or assistant, copy of which is retained by him for checking of invoices. All material is requisitioned from storeroom on foreman's material order. Each foreman and engineer carries a pad of these forms and the storekeeper will only issue materials upon receipt of a properly made out and signed order. If order carries O. K. of superintendent in charge of work, in case material is not in stock storekeeper has authority to order it from outside. The storekeeper files these foreman's orders and at the end of each day's work enters the material issued on his copy of work order.

**TIME-KEEPING:** On this particular job, owing to the small number of men employed—forty to sixty—the foreman acted as his own time-keeper, giving detail of time and its distribution to clerk at end of each working day. The work is done by contractor on Force Account, so no payroll is carried, but a dummy payroll sheet is made up for checking purposes, and time turned in by foreman is entered on this as well as spread on the various work orders.

**INVOICES:** All invoices are sent to storekeeper for checking as to receipt of material and prices, then to engineer or superintendent for approval. In case bill is for material, which is a direct charge

against authorization, a record is made on dummy of detail sheet. This detail sheet is made out and sent to the Philadelphia office monthly. The invoices are then sent along with invoice record to main office for vouchering.

**COMMITMENTS:** On this particular work no record of commitments was made, but subsequent experience has shown the necessity of this record.

The engineer or superintendent in charge should know at least once a month how the expenditures compare with his appropriations, and this can only be obtained by adding to actual monthly costs the unbilled and unpaid balances on all orders and contracts. By tabulating the amounts of all orders and contracts, and deducting monthly payments on each, this record is easily kept.

**SUMMARY:** The cost of any job is represented by the sum of the cost of all labor and material. With all labor and storeroom issues tabulated and a record made of all invoices for directly charged materials, the detailed cost record is easily worked up. From this detail unit figure, i.e., cost concrete per cubic yard, cost of brick laid per M, etc., can readily be calculated.

**GENERAL:** This system is not complex,

considering the results obtained. Three men, not including the engineers in charge, took care of all the detail required for work involving the expenditure of nearly one million dollars over a period of about fifteen months. As outlined, it can be expanded to cover almost any class of work, but the writer feels it is especially adapted to carry on the class of work undertaken by the subsidiary companies of the American Gas Company.

**MAINTENANCE WORK:** To illustrate the adaptability of this scheme, later it was expanded to cover cost accounting on all maintenance work at the Plymouth Plant.

Each major piece of equipment—boilers, pumps, turbines, generators, etc.—in the plant is given a key number and a maintenance work order is issued for each twice a month, as described for construction work. The work order form used is similar to construction work order, only a different color. Through the same system of storekeeping, foreman's material orders, timekeeping, etc., costs on maintenance work are secured and entered monthly on summary card, Figure 2.

**Front**  
ELECTRIC PLANT  
LUBERNE COUNTY GAS & ELECTRIC COMPANY  
No. \_\_\_\_\_ Year \_\_\_\_\_  
**MAINTENANCE COST REPORT**

Equipment	Material	Labor	Total
JAN.			
FEB.			
MAR.			
APR.			
MAY			
JUNE			
JULY			
AUG.			
SEPT.			
OCT.			
NOV.			
DEC.			

**Back**  
**SUMMARY**

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1921													
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## Good Copy and Good Will

### Intelligent Advertising Always "Sells" the Institution as Well as Its Product

By B. J. MULLANEY, Peoples Gas Light and Coke Company



B. J. Mullaney

**A**DVERTISING is an experienced and versatile helper for use in all branches of the public utility industry, always ready to be put to work at one or more of three well defined jobs:

1. To sell our service, no matter what branch of the industry may be ours.
2. To sell merchandise and appliances, if we are a gas or electric company with merchandise and appliances to sell.
3. To sell our securities, especially if we are promoting customer ownership.

Let us consider these from the Biblical viewpoint, "The last shall be first."

When advertising is employed to sell securities, if it is to be effective, it must necessarily exploit the good points of the company—its resources, its volume of business, its opportunities for more business, its policies, its management and so on—all as tending to guarantee its earning power. If this is not "good will" advertising, what is it?

If we are using advertising to sell merchandise and appliances—gas ranges, water heaters, clothes dryers; electric fans, washing machines, vacuum cleaners—the advertising that does it most effectively is advertising that tells the prospective buyers the good they will get out of the merchandise or appliances. In this again the advertising is most effective when it

carries a suggestion of the business methods, policies, desires and resources of the company that stands back of the advertising.

It is, for example, obvious, when pointed out, that the gas company or the electric company is interested that the gas burning or electricity using appliance shall give the best possible service to its owner lest dissatisfaction react upon the gas or electric service that makes the appliance "go"; pointing out this fact is a logical corollary to advertising the merits of the appliance itself. When this is pointed out, with the further assurance (always to be made good, of course) that the selling company will insure satisfactory working of the appliance, the inevitable reaction is in the direction of enhancing the intangible assets that constitute "good will." Again, if this is not "good will" advertising, what is it?

In my judgment, advertising to sell our service so that new customers may be attracted and so that old customers may use more of it, is, and should be, no different in kind from advertising to sell any other commodity—breakfast foods, men's clothing, tooth paste, chewing gum, and what not.

The advertising that sells our service most effectively is advertising that tells the possible customer, who is not using it, how he can use it to advantage, and that tells the existing customer how he can use it, and more of it, to still greater advantage. It tells the housewife how her home cares can be eased and her social activities facilitated by the use of our

service whether the service be gas, electric, telephone or transportation. It transmits a similar message to the man of the house. It points out to the business man ways in which our service can be used to save money, quicken operations or otherwise facilitate his business. It even goes the length of telling both old and new customers the shortest, easiest and most expeditious and altogether satisfactory ways of making use of our service, as when a first installation of it is desired, when the customer moves, when he wants to discontinue service on account of protracted absence or otherwise, or when he wants to take up any detail of business with us.

Always this advertising, when it is most effective, carries a suggestion, but seldom more than a suggestion, of the resources in money, in plant and equipment, in business organization, and the multiplex details of management which contribute to making the service available and efficient. If advertising in this way to sell our service is not "good will" advertising, tending to enhance the intangible assets of better understanding and appreciation of our service and satisfaction with it, then I have mis-read the dictionary definition of "good will."

I am well aware of an impression in some quarters that "good will" or "institutional" advertising for a public utility company is entirely different from the conception sketched therein; that it should exploit the industry or a particular branch of it as a beneficence for which the user of our service should go down on his knees every night and thank God; that it should breathe a spirit of passionate devotion to serve humanity as its greatest objective, and more of similar character. That kind of advertising, it seems to me, is never highly effective, because it lacks focus upon the one thing that is of most interest to our customer, which is what our service can do for him. It is apt to be unconvincing, because it lacks obviously logical sincerity. It is in my judgment to be shunned because, un-

less done very much better than most of us can do it, the finished product reads like bunk, and bunk is not an effective promoter of "good will."

We cannot escape the conclusion, it seems to me, when we look the facts in the face, that intelligent and consistent employment of plain everyday ADVERTISING in the selling of securities, of merchandise and appliances and of service, is, in the long run, the best kind of "good will and institutional advertising." If we utilize the latent opportunities inherent in these three distinct fields of advertising activity, the inevitable result will be enhanced "good will" for the "institutions," whether the institution be a company, a special form of utility service, or an entire public utility industry.

#### "WHEN TROUBLE'S A BUBBLE"

EDWARD HOEY, engineer at the West Conshohocken Gas Handling plant, Norristown, Pa., wins the laurels for discovering a gas leak in a most unique way.

Upon reporting for work, according to the U. G. I. Circle, he stated that while enroute from his home, in Norristown to Conshohocken via trolley car, he "saw" a gas leak on East Main Street, Norristown.

Now, as we all know, gas is invisible and just how Ed could "see" a gas leak was a little more than we could understand.

Nevertheless, a crew was dispatched to the location and a leak was actually found right where Ed said he "saw" it. The explanation was then forthcoming.

It seems that it had been raining and some puddles had formed in the vitrified brick paving on East Main Street, and the car on which Mr. Hoey was a passenger had come to a stop right near the then undiscovered leak.

Mr. Hoey had been sitting comfortably in the car enjoying the scenic beauty and picturesque grandeur of the East End of Norristown, when his eagle eye suddenly caught sight of a series of bubbles arising in one of the puddles as the car came to a stop. Thus was another chapter added to the list of unique ways of finding gas leaks.

In the November issue of the MONTHLY the editor inadvertently neglected to give proper credit to John H. Hartog, sales manager of the Portland Gas and Coke Company, Portland, Oregon, for the "Turkey Insurance" story on page 696. Apologies are in order and hereby tendered.

## MANUFACTURERS SECTION

WATSON E. DERWENT, Chairman

C. W. BERGHORN, Secretary

W. E. STEINWEDELL, Vice-Chairman

### Why Not Speak Up for Your Customers?

Pointing with Pride to the Industries Which Buy Your Goods Reflects Credit on Yourself

By JAMES H. COLLINS

**W**HY should a trans-Atlantic steamship company take four-column space in metropolitan newspapers to advertise—apples?

It was done last fall, during National Apple Week—October 31 to November 6—by the International Mercantile Marine Company, which placed the picture of a big red American apple beside the "Majestic," one of the world's largest ships, and announced that its ships—more than a hundred of them—would deliver at least 20,000,000 apples in Europe during the week of the celebration. That's quite a lot of apples—50,000 barrels of cooking fruit, or 150,000 boxes of table apples. The public also was told that apples and dishes prepared from them would be prominent on the menus of all International Mercantile ships that week.

This advertising created immediate good-will far out of proportion to the expenditure.

For the expenditure was limited, and experimental. The freight traffic department spent the money—said to be the first periodical advertising it had ever done. Regularly, during the last dozen years, advertising men have pointed out the possibilities in advertising freight service, especially to the railroads, whose big revenue comes from freight. But the freight traffic men are yet a long way from seeing the light, so this was a real novelty.

It created good-will, because the idea of 20,000,000 apples going to Europe in one week was interesting in itself. At the moment, it was also news. And it

had direct interest for hundreds of thousands of apple-growers, and the concerns marketing and exporting the apple crop.



### Watch the Gas Industry Grow!

Each year 400,000 new customers acquired—

High burners in factories and mills, consuming more gas than does the average city of 50,000—

Industries using more and more gas in carrying out 20,000 trade processes—

In ten years, 100% increase in total gas sales, but 200% for industrial heating—

Watch the gas industry grow!

Within the memory of living men gas was once used only for lighting. Now it is the indispensable fuel of thousands of factories and mills.

Such rapid expansion, accompanied by low rates, can be explained only by steadily increasing efficiency in gas production—by getting more gas, more by-products out of a ton of coal than before—the right coal.

Because the right coal is the most important factor in achieving true efficiency thirty-four of the leading gas companies specify Consolidation Clean Coal. For only such a coal, free from non-combustible, variable wastes, high in heat and low in ash and sulphur rich in its yield of gas and by-products, can meet the domestic and industrial demand for uniform, high-quality gas at a low rate.

### THE CONSOLIDATION COAL COMPANY

Incorporated  
Munson Building—New York City

DETROIT, MICH. Pres. Nat'l Road Bldg. CHICAGO, ILL. Union Trust Bldg.  
PORTSMOUTH, N. H. 100 North Street CHICAGO, ILL. Union Trust Bldg.  
BALTIMORE, MD. Commercial Bldg. CHICAGO, ILL. Union Trust Bldg.  
BOSTON, MASS. New Market Bldg. CHICAGO, ILL. Union Trust Bldg.  
PHILADELPHIA, PA. Union Trust Bldg. CHICAGO, ILL. Union Trust Bldg.  
SAN FRANCISCO, CALIF. 400 Market St.  
LONDON, ENGLAND. 100, Abchurch Lane.  
NEW YORK, N. Y. 100, North Street.  
ST. PAUL, MINN. Union Trust Bldg.  
CHICAGO, ILL. Union Trust Bldg.  
CHICAGO, ILL. Union Trust Bldg.  
CHICAGO, ILL. Union Trust Bldg.

© Copyrighted by the Consolidation Coal Company, Inc., 1926

This Advertisement Will Appear This Month in the Saturday Evening Post and the Literary Digest with a Combined Circulation of 3,725,000.

From Printers' Ink.

Look into this idea of speaking up for one's customers, and you find that quite a little of it is being done.

There are times when the transportation companies, or banks, or manufacturing concerns, may get a good deal more out of their advertising space by talking of some particular customer than about themselves.

They can talk about his prosperity and enterprise on some occasions, and again about his business difficulties and trials.

The public will be interested if it is well done, and the customer will appreciate it, and the advertiser who pays for the space gets his reward in pointing with pride: "What a wonderful fellow this is!" he says, in effect; "and he is my customer!"

A big idea, because it goes down to the biggest thing in business—connections. All very well to say there is no friendship in business. But business is done largely on connections, and connections are friendships, not in the sense of mere relatives or acquaintances, but organization for service and stability.

A couple of years ago the Consolidation Coal Company devoted considerable space to the railroads' handicap in hauling coal, explaining that the carrying capacity of the roads depends not only on car supply, but efficient use of available rolling stock. Elimination of one idle hour each day in the use of freight cars increases the carrying capacity of the railroad more than 100,000 cars. The railroads were commended for courageous striving in the face of a difficult situation, the public was asked to co-operate, and the company explained that it was making the utmost use of cars at its mines, and also helping solve the problem by shipping only clean coal.

This company, in the same campaign, put in a good word for a half dozen of its leading customers. Besides their hauling difficulties, the railroads were spoken of as large consumers of coal, some 119,000,000 tons of soft coal burned by them in 1919 was one of their major outlays,

next to labor, and quality was emphasized as well as quantity, for scientifically chosen fuel is necessary in the operation of crack trains.

The gas, electric utility, street car, steel and textile industries were described in terms of soft coal, giving the public some conception of the part it plays in everyday life. The gas industry, for example, uses 16 per cent of our yearly soft coal production, from which it makes more than 5,000 cubic feet of gas yearly for each person in the United States.

The response to such advertising is usually astonishing when undertaken for the first time.

Be sure to have proofs struck off in advance, because people will ask for them. Of the steamship apple story, several thousand proofs were sent out, in response to requests, often from persons who wanted twenty-five, fifty or 100 to distribute in various ways.

And there seems to be no reason why a small concern should not use such advertising to strengthen connections. Big business has used it thus far to tell the metropolitan or national public what good big customers it has in the fruit or coal business. But there's many a local concern that might utilize the idea—and undoubtedly many a concern in the technical field that would find it a good note in business-paper advertising. Your customer may be an industry, a class, a community or an individual business concern. If your pride in his importance, and your connection with him, is such that you would want to point him out of the Pullman window to a stranger, you will surely want to point him out in a bigger way in print.

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The ideal basement, from the home builder's and architect's point of view, is said to be that in which a central gas-fired house heating plant, hot water service, gas refrigeration, laundry washing, drying and ironing and gas-fired refuse incinerating equipment are installed, with ample space left over for attractive recreation, rest or entertainment rooms.

## INDUSTRIAL GAS SECTION

FRANK F. CAULEY, Chairman

CHARLES C. KRAUSSE, Vice-Chairman  
C. W. BERGHORN, Secretary

### Making 48-Inch Pipe with Industrial Gas

Huge Single Casting Turns Out to Be Feeder for More Gas Fuel

By ALBERT ZANDER, Peoples Gas Light and Coke Company

SEVERAL of Chicago's foundries were asked if they would care to accept an order to make a certain pipe-fitting that was admittedly very difficult to cast. Only one fitting was required, and if the foundry failed to make a perfect casting on the first attempt, naturally all profits would be wiped out.

The customer went from foundry to foundry, and wherever he went he met with great reluctance on the part of the foundryman to accept an order to make so difficult a casting. Every foundry has rejects at some time or another in their history. Sometimes there are blow holes in the castings; sometimes castings are spoiled on account of poor moulds or poor cores. There is any number of reasons why a foundry should occasionally have to throw back into the cupola defective castings. This is no reflection on the foundry management. As a matter of fact, they should be commended for refusing to allow imperfect work to leave their shops. But in this particular case only ONE piece was to be cast, and the least imperfection would mean that the entire process would have to be repeated.

Well, what is so difficult about this casting? In the first place it has a very peculiar shape. Imagine a piece of pipe made of india rubber. This pipe is four feet in diameter; about fifteen feet long; and has a wall thickness of about  $1\frac{1}{2}$  inches. Now, suppose one end of this pipe is held rigidly, while the opposite end is skewed out of position until the pipe somewhat resembles the letter "S." Suppose the pipe remains in this new position. That is the shape of the cast-

ing so many foundry men objected to cast.

At length a foundry was found who would attempt to make such a casting. The patterns were received and work begun immediately. In making a casting it is necessary to mould or shape sand in such a way that, when the molten iron flows into the voids, it will take the exact shape of the desired finished casting. Foundrymen call the outside portion of the sand the "mould" and the inside part the "core." This casting required, of course, both a mould and a core.

The pattern was laid in the wet sand, one-half at a time, and a mould made of it. The two moulds comprising the top and bottom halves were placed together, one on top of the other, after the pattern had been removed. The sand was wet and had to be dried, because, as you will remember, you cannot pour molten iron into a wet sand mould. Dangerous results may follow. It is here that the foundryman met his first real difficulty, and it is here that industrial gas came to the rescue and saved the day.

Try and visualize, if you will, just what this job was that industrial gas had to do: a large cylindrical cavity inside of a veritable mountain of wet sand had to be dried. Now, drying a sand mould so that none of the sand is burned, and so that the part that is over-hung will not collapse, is a real "man-size" job. Various means of drying were considered, but it was clearly to be seen that gas was the logical fuel with which to do the work. Prior to the invention of the gas-fired mould dryer, these large moulds, such as





Here Is the Sand Mould, Gas Dried and Ready.

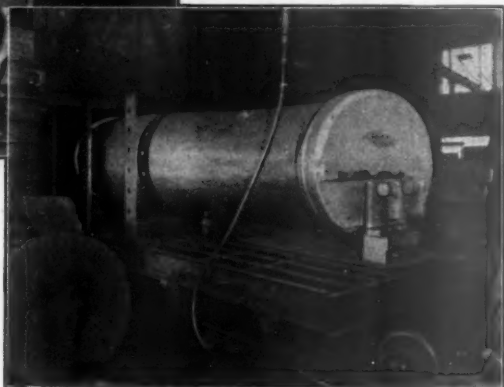
we have described, had to be picked up by traveling cranes and placed in huge drying ovens. This process endangered the moulds. Oftentimes the crane would swing the mould accidentally against a pillar or some other such obstruction, which would result in the ruination of the mould.

The modern gas-fired mould dryer dries the mould right on the spot. This appliance is very portable and can immediately be set in operation the minute the moulder has finished with his work.

In addition to the mould dryer, there is the core, which must be made of wet sand. The core is the thing that puts the hole in the pipe. The core is suspended inside of the mould, leaving a uniform void space on the entire perimeter of the mould. The core for this mould weighed many tons. After it was shaped, it was placed in a huge gas-fired core drying oven and baked.

After both the core and the mould had been sufficiently dried, they were carefully assembled so that when the molten iron was admitted it would run all around through the void space and take the shape of the finished pipe. All of this sounds very easy, but the foundryman will tell you that the element of difficulty of mak-

ing such a casting is very great. Success largely depends upon the perfect drying of the mould. It is indeed interesting to note that, when the ability of the foundryman was taxed to the utmost, he resorted to gas to assist him. It



And Here Is the Core of Sand and Linseed Oil Ready to Be Rolled into the Mould Above.

is very gratifying that, although this casting was very difficult to cast, and that the chances of making a perfect casting were against the foundryman, the very first attempt resulted in the casting of a perfect piece of pipe exactly as specified.

One of the interesting features of the casting of this big pipe-fitting is that no one in the foundry knew what the pipe was to be used for. When our photographer went out to the foundry to make the picture of the finished casting, he was advised that it had left and was on the way to the purchaser. A taxi-cab was hailed and pursuit immediately began. Three or four miles away the auto truck was discovered waiting outside the receiving room of one of our large industrial gas customer's plants. The photographer questioned the clerks as to what use the pipe was to serve. He was told, much to his surprise, that this four-foot offset pipe is to be used in delivering industrial gas to the various departments in the plant.

## COMMERCIAL SECTION

ROBERT J. CANNIFF, Chairman

R. L. BURDICK, Secretary

J. J. BURNS, Vice-Chairman

# What Shall We Do With the New Territory? Fine-Tooth Combing Brings to Light Many Hidden Opportunities

By R. W. COBLENTZ, Portland Gas and Coke Company, Portland, Oregon

**F**OLLOWING the purchase of the gas plant in the City of Vancouver from the Pacific Power & Light Company, on December 1, 1924, it was decided to make a complete canvass of (1) all houses on the mains, including both business and residences; (2) all houses so situated that extensions could be run.

Record cards were submitted to the sales department showing approximately 1,875 houses to be canvassed. A period of two weeks was allotted for this work. A crew of ten men from the field sales division was used for the work, special training being given them to obtain following objects:

1. To get acquainted with the Vancouver residents.
2. To break down any antagonism that we might encounter against the use of gas, and to educate the people as to its many advantages and the service we give.
3. To determine the extent to which gas is being used, as well as electricity and other fuels.
4. To increase the use of gas as much as possible.
5. To sell as many gas-consuming appliances as possible.
6. To acquire certain information on each call which could be used to secure business at a later date.

On each call where gas was being used—or gas service was sold—a report was made on Form 412—Survey of Customers Premises. (See Fig. 1.) On this form information was secured as to the appliances in use for cooking, water heating, house heating, laundry and lighting; also information as to the customer's

Form 412 10-1-24

### SURVEY OF CUSTOMER'S PREMISES

NAME \_\_\_\_\_ Phone \_\_\_\_\_

ADDRESS \_\_\_\_\_

Date \_\_\_\_\_ Salesman \_\_\_\_\_

Class of Building A - B - C \_\_\_\_\_

<b>COOKING</b> Gas _____ Elec _____ Solid _____ Condition of Appliances: Good _____ Fair _____ Bad _____	<b>WATER HEATING</b> Gas _____ Elec _____ Solid _____ Condition of Appliances: Good _____ Fair _____ Bad _____	<b>HOUSE HEATING</b> Radiator _____ Furnace _____ Radi. fire _____ Stove _____ Fuel used: Gas _____ Oil _____ Solid _____ (If None in House Check)	<b>LAUNDRY APPL.</b> Washer _____ Ironer _____ Dryer _____
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Orders Taken For \_\_\_\_\_

Customer's Attitude \_\_\_\_\_

REPORT \_\_\_\_\_

(1924)

Fig. 1. Report on This Form Includes Customer's Attitude Towards the Company as Well as Appliances in Use.

attitude toward gas and toward the company. This form also provides a space in the right-hand corner to check items they contemplate buying at a future date.

In case no gas was being used or the salesman was unable to sell gas service, a Form 20—DS & NS Solicitation Report (See Fig. 2)—was filled out, giving in detail the reasons as to why the salesman was unable to make the sale, and also to specify whether or not there was a service in the house, by checking off either "dead service" or "no service."

On every completed call it was necessary to have either a Survey of Customers' Premises or an NS & DS Solicitation Report.

This campaign was backed up by advertising and write-ups in the local paper. Salesmen distributed literature covering the use of ranges, water heaters, ironers and washers, and a considerable amount of favorable publicity was secured in this way.

The work was done between January 19 and January 31, inclusive.

Out of the 1,875 calls to be made, 1,678

were completed, the difference representing the number of vacant houses or "not homes" after the second and third calls.

#### For Cooking

Found using Gas Ranges .....	795
Found using Electric Ranges ....	87
Found using Solid Fuel Ranges .....	796

#### For Water Heating

Gas Water Heaters .....	376
Electric Water Heaters .....	38
Coils (Solid fuel stove or furnace) .....	552

Form No. 100-1000  
Pittsburgh Gas & Coke Company  
D. S. & N. S. SOLICITATION REPORT

Address		Occupation	
Name	Address	Water Heating	Other Heating
Will use			
Today			
REASON OF FIRST CALL			
Suggested	Will consider	Can't afford gas	Can't afford appliances
Gas injurious	Gas dirty	Opposed to Company	Manufacturers
Other (State reason and give name to full name)			
Explanation			
Is one of "will consider" when call back?			
Describe circumstances			
Date of 1st call	Salesman	Date of 2nd call	Salesman

Fig. 2. "Hard-Boiled" or Gasless Prospects Are Duly Entered on This Form.

No means of heating water excepting on the stove .....	712
<b>Sales</b>	
Applications for Gas Service ....	43
Meters .....	102
(57 of these changed from Dead Service)	
Ranges .....	31
Water Heaters .....	20
Hotplates .....	10
Arcs .....	11
Floor Heaters .....	1
Kitchen Heaters .....	3
Industrial .....	1
Radiantfires .....	1
Water Heater Control .....	1
Room Heaters .....	3
Gross Sales .....	\$3,335.70
Cost per \$1.00 Gross Sales .....	\$ .13

Live and Potential prospects secured, for gas service and appliances—682.

In also showed that, adding the new ranges to those already found in service, there was only 11 per cent as many electric ranges in use as gas, and 10 per cent as many electric water heaters.

#### MAIN EXTENSION SURVEY

Five men accustomed to main extension work were assigned to this canvass and approximately five weeks were needed to complete it.

The objects were:

1. To educate the people to the use of gas.
2. To sell as many gas-consuming appliances as possible.
3. To compile data which would be valuable from a sales standpoint later on.

As in the preceding canvass, either the Survey of Customers' Premises Report or the DS & NS Solicitation Report was made on each call.

In order to conform with the Operating Department, the town was worked in districts, and, as far as possible, each district was cleaned up before another district was entered.

In most cases the people on whom we called had never used gas, and considerable educational work had to be done, and a great many calls were necessary to complete this work.

As in the preceding canvass, literature was carried by the salesmen and left in all cases.

Number of completed calls in this survey—800

Gas Service Applications .....	293
Meter Applications .....	308
Ranges .....	115
Water Heaters .....	42
Hot Plates .....	42
Arcs .....	3
Floor Heaters .....	9
Kitchen Heaters .....	5
Industrial .....	1
Radiantfires .....	3
Heat Controls .....	2
Laundry Appliances .....	4
Jobbing Orders .....	13

Gross sales .....	\$11,682.45
Cost per \$1.00 gross sales .....	\$ .09

Prospects filed for applications and gas service, 260.

In this territory 26 electric ranges and 10 electric water heaters were found.

Combined Results of Survey of Houses on Mains and Main Extension Survey

Applications were taken for:	
Services .....	336
Meters .....	146
Water Heaters .....	62
Hot Plates .....	52
Arcs .....	14
Floor Heaters .....	10
Kitchen Heaters .....	8
Industrial Appliances .....	2

Radiant fires .....	4
Heat Controls .....	2
Laundry Appliances .....	4
Jobbing Orders .....	11

Number of dead services changed over to use of gas, 57.

Taking into consideration the sales made during this campaign, the proportion of electric appliances to those of gas is as follows:

Proportion of electric ranges to gas .....	11%
Proportion of electric water heaters to gas .....	10%
Gross Sales for the two campaigns .....	\$15,018.15
Cost per \$1.00 Gross Sales .....	\$ .10

It is felt that the campaign in Vancouver was a decided success; not only in the new customers secured and the number of appliances sold, but that the close association obtained by personal

canvass as well as the information as to the appliances and their condition that are now in use will be valuable to the company at a future date.

It is also felt that a considerable amount of business will continue to come from the persons on whom calls were made, but that if another canvass were made later on, a considerable amount of business could then be obtained. The reasons for this conclusion are (1) that during the entire campaign the weather conditions were very unfavorable, raining or snowing during the greater part of the time; (2) that there was a large amount of unemployment owing to a number of the lumber mills being closed as well as the timber workers being out of work; (3) that the educational work which has been done will have an accumulative effect; (4) that the extension of the mains broadens the field.

## The Private History of a Complaint

### Pink Ticket System Gets Results and Has Educational Advantages as Well

By J. LYMAN COLLEGLEY, Utica Gas and Electric Company

A PUBLIC utility's worth in the community is measured by the service it renders. With this fact always in mind, the management of the Utica Gas and Electric Company is constantly endeavoring to improve its service and relations with the public. Realizing that the employees of our company offer a medium through which we can learn of the complaints and suggestions from our customers, a plan has been adopted whereby the employees can report comments regarding our service, and their report will reach the proper department for attention.

Sometimes our employees come in contact with customers who question the amount of bills, delay in receiving service, or service not satisfactory for some reason or other. Frequently the em-

ployee who receives the criticism is not familiar with conditions, and for this reason is unable to give a satisfactory explanation to the customer.

With the adoption of the plan, which is known as the "Pink Ticket" plan, it is a simple matter for an employee to report any complaints, and thereby enable our company to improve its service to the public.

Upon receiving a complaint or request for information from a customer, or even if an employee hears a discussion regarding an unsatisfactory condition, he offers his assistance to remedy the condition. Immediately thereafter he fills in the Pink Ticket, giving full information, and signs his name, together with the department with which he is connected, also the date, time and place where the criticism was

heard. The latter information may be of interest to our company.

The employee who makes out the ticket turns it in to the head of his department, who routes it immediately to a member of the commercial department who has been designated to handle such cases. This person thereafter is responsible for routing of the ticket to the proper department for correction, notifies the customer that his complaint has been received and also notifies the employee that the matter is under way.

Upon completion of the work to be done, the department having this in charge notifies the commercial department

**"SERVICE FIRST" •  
UTICA GAS & ELECTRIC COMPANY  
IMPORTANT**

M. _____	Tel. No. _____
Address _____	
Comments _____	
_____	
Date _____	Signed _____
Time _____	Department _____
Where Overhead _____	Location _____

The Use of the "Pink Ticket" as Shown Here Is Increasing in Other Companies as Well as This.

to this effect. A notification is made on the back of the Pink Ticket giving the necessary information as to what has been done. The company then communicates with the customer again and informs him that the work has been done and assures him of our desire to give prompt and satisfactory service.

The notice to the employee who originates the Pink Ticket carries full information concerning the case. It therefore enables him to talk intelligently on the subject, provided he meets the customer at any future time, and also shows him that the complaint turned in by him has received attention.

The new plan serves two purposes: First, it enables our company to learn of any complaints which we would not hear of otherwise; to correct them and thereby improve our service to the customer. Sec-

ondly, it acquaints the employee with our different departments, and gives him a greater knowledge of our business by informing him how various problems are handled.

Pink Tickets are carried by all employees and executives of the company. They are thus prepared to make entry of any matter needing attention or adjustment at all times.

## Enlarging a Small Gasholder

**A**N interesting piece of engineering work has just been completed by Messrs. Edward Cockey & Sons, Ltd., for the Hurstpierpoint Gas Company, at their works at Hurstpierpoint, Sussex, under the instructions and supervision of the company's consulting engineer, Mr. Alec E. Whitcher, of Haywards Heath, according to the *London Gas Journal*.

For some time the company had found their storage inadequate. This consisted of a single-lift holder, 48 ft. dia. by 12 ft. 10 in. deep, column guided, in a steel tank. Fortunately, when this holder was erected, many years ago, it was provided with a cup, and the tank was made of sufficient diameter to accommodate a second lift. In the circumstances, the obvious solution to short storage was to provide the holder with a second lift. Seeing, however, that the continuity of the gas supply to the town depended on this single-lift holder being kept in continuous commission, a delicate problem was presented to the engineer and contractors. The question, however, was solved, and the town is now enjoying an increased gas supply without any inconvenience having been caused to the consumers while the work was in progress.

The method of carrying out the work was probably unique. The first operation was to extend the guide-framing. This consisted of 7 R. S. J. verticals, 10 in. by 5 in., connected together at the top by horizontal girders. As soon as these were in position, the sections of grip channel for the new lift were slung to the horizontal members, and securely riveted together. The skirting plates of the grip and the side sheets were then added row by row, working downwards, until, when completed, and before being lowered into position, the inner lift of the holder worked in the lower half of the guide-framing, and the outer lift up in the air, suspended from the top girders. The task of changing the bottom rollers of the inner lift, and the removal of the guide carriages and rollers from the crown of the inner lift, so as to permit the lowering of the new lift into position, was accomplished without hitch, and the work has been completed to the entire satisfaction of the directors and the consulting engineer of the company.



## TECHNICAL SECTION

JOSEPH P. HAFTENKAMP, Chairman

H. W. HARTMAN, Secretary

WALTER C. BECKJORD, Vice-Chairman

# Will Bituminous Coal Displace Anthracite and Coke as Generator Fuel?

### Objections Readily Overcome by Simple New Devices

By L. B. EICHENGREEN, The United Gas Improvement Company



L. B. Eichengreen

that plant "thirty years ago," and nothing is the matter with their memories.

Bituminous coal has been tried time and time again, and there are plants in the Middle West where it has been the regular generator fuel for fifteen years or more, and furthermore these plants have saved money by its use.

However, the developments in this particular phase of our industry have been extremely rapid, and the progress made towards efficient use of this fuel has been really remarkable during the last five years.

In the first place, we have learned much about the fuel itself, its preparation and the methods to be employed in its use. Secondly, the relative cost of bituminous coal delivered to the gas plant, as compared with coke and anthracite coal, has decreased generally in recent years, and this has provided the incentive for the almost universal effort to develop satisfactory means of utilizing this fuel. Gas companies have been greatly aided in this respect by some of the bituminous

coal operators, who have installed screens and other apparatus to provide fuel of uniform size and free from dirt and fines.

#### USE OF BITUMINOUS COAL BECOMING GENERAL

As a result of these developments, the use of bituminous coal in generators, particularly in plants which make only water gas, is rapidly becoming quite general.

The plants now using this fuel may roughly be divided into two classes, the ones that use it to the exclusion of all other fuels, and the ones that use it mixed with either coke or anthracite coal. The latter class probably contains the greater number of plants.

The reason for this can usually be found in the fact that it is much more simple to use a mixture of fuels rather than straight bituminous coal, and the change from the use of straight anthracite or coke can be made more easily and with fewer changes to the usual method of operation than when attempting the use of 100 per cent bituminous coal.

There is increasing evidence, however, that the use of a mixture of fuels is merely the first step to the eventual use of 100 per cent bituminous coal.

It is almost literally true that any bituminous coal can be used to make water gas, but certain physical and chemical characteristics greatly affect the efficiency and hence the economy of the operation.

Speaking generally, the ideal bituminous coal for use in a generator is one which can be furnished in uniform size

and in fairly large sizes, free from dirt and fines, having the necessary strength and structure to resist breakage in handling, low in ash and sulphur content and a fairly high fusing point. The percentage of volatile in the fuel does not appear to matter as much as is generally supposed, although the high volatile coal seems to break up less.

The problem of the average gas plant manager in selecting his fuel is to find the one which has the greatest number of the above characteristics that can be obtained at a price which makes it the most economical. It is, however, very important that no item in the final cost of gas be overlooked in making the comparison. A fuel which will give the lowest figure for generator fuel in pounds per M may, for instance, produce in handling such a high percentage of fines, that the cost of handling these fines, plus the added cost of using this high priced fuel under the boilers, will neutralize to a large extent the saving in the cost of generator fuel. The only real solution of this problem lies in the actual use of the fuels in question for a sufficient time to be sure the results obtained are representative. This need cause the manager no worry, as usually his choice is limited to one or two selections, owing to freight rates alone.

If the figures show that money can be saved by using bituminous coal, the objections raised by a few conservatives should not prevent anyone from taking advantage of this saving.

#### SMOKE NUISANCE READILY OVERCOME

One of the principal reasons advanced for not using this cheaper form of fuel is the smoke nuisance. There is no such thing. It is true that, if the same method of operating is followed as with a smokeless fuel, such as coke, there will be smoke and plenty of it. A slight change in operating will, however, eliminate smoke entirely, and usually no change whatever is required in the machine. There are one or two exceptions to this latter statement,

however, as one or two minor alterations are required on some machines to permit the use of a blow run and air purge, and frequently it is necessary to enlarge the air connections to the carburetter. This latter change can usually be made without enlarging the blast valve itself, and at very slight expense.

The size of the machine is probably the most important single factor affecting the use of bituminous coal. Until the recent development of the pier process controlled by The U. G. I. Contracting Company, it had been well nigh impossible to attain capacities approaching those normal with good coke operation on the larger sizes of machines. This fact had made necessary in most of the situations the use of a mixture of coke or anthracite and bituminous coal. This, of course, reduced greatly the amount of saving possible.

#### PIER PROCESS INCREASES EFFICIENCY

The introduction of the pier process has resulted in greatly increased efficiency as well as capacity and has made it practical for nearly every plant to use 100 per cent of the cheaper bituminous coal in place of the more expensive forms of fuel previously used. There are several variations of the pier idea in use, the inside diameter of the generator usually dictating the particular type of design best suited for any situation.

A number of plants are now obtaining capacities which, while perhaps not quite as great as those expected from good coke, are at least not far from it. They are using less actual pounds per M of the cheaper fuel than they formerly used of coke.

The following table shows actual results obtained in one plant on a 10' 6" machine using varying percentages of a high grade water gas bituminous coal and a good grade of coke.

Such results may be expected with a high grade fuel of approximately 14,500 B.t.u. per pound and low ash content, without the use of a pier. It will be noted that, as the percentage of coal increases,

there is a rapid falling off in capacity, even with an increase in the oil used. Also, that for more than 70 per cent coal there is a great increase in the generator fuel per M.

Percentage of Coal	0	50%	60%	70%	100%
Total fuel					
per M lbs.	29.5	29.0	30.6	30.0	35.1
*Oil per M (gals.)	3.13	2.98	3.16	3.28	3.58
B.t.u.	560	560	560	560	560
Make per 24					
hours (M)	2997	2895	2439	2266	1740

The table below gives a comparison of the results obtained on the same 10' 6" machine equipped with the Chrisman Cycle using first a mixture of bituminous coal and coke without a pier and, second, using 100 per cent of the same coal with a pier:

Percentage of Coal	53%	100%
Total fuel per M (lbs.)	33.5	31.90
†Oil per M (gal.)	3.38	3.19
B.t.u.	560	560
Make per 24 hrs. (M)	3180	3130

The heating value of this coal was approximately 12,500 B.t.u. per pound.

Previous tests of varying percentages of this same low B.t.u. bituminous coal mixed with coke had shown results very similar to those shown in the first table for the high grade coal.

#### CHRISMAN CYCLE

These tables are shown to indicate the usefulness of the pier, as well as an indication of what can be done with bituminous coal and coke mixtures. One word of explanation is necessary, however. The results shown in the second table were obtained after the installation of the Chrisman Cycle on the 10' 6" machine, while those in the first table were obtained just before the Chrisman Cycle installation was made. The effect that this had on the figures shown is to cause the fuel per M in the second table to be about  $2\frac{1}{2}$  pounds lower than if Chrisman Cycle had not been used. The increase in capacity may be attributed also to this method of operating.

The two tables taken together show that, in order to obtain the full benefits of the cheap bituminous fuel, it is necessary to install a pier. Otherwise, the loss in capacity as well as the increase in pounds per M, when high percentages of bituminous coal are used, will make the use of such percentages impractical and uneconomical. By installing a pier the purchase of expensive coke or anthracite can be eliminated.

### When the Gas Main Receives A Temporary Disposes

By WALTER E. L. IRWIN,  
The United Gas Improvement Company

**S**TREET railway subway construction in Philadelphia has made it necessary to remove all gas mains from Broad Street. In order to maintain service, the large mains were replaced by a new system laid on parallel streets and carried across Broad Street on bridges. The consumers along Broad Street are supplied from temporary mains laid on the surface of the sidewalk or in the gutter.

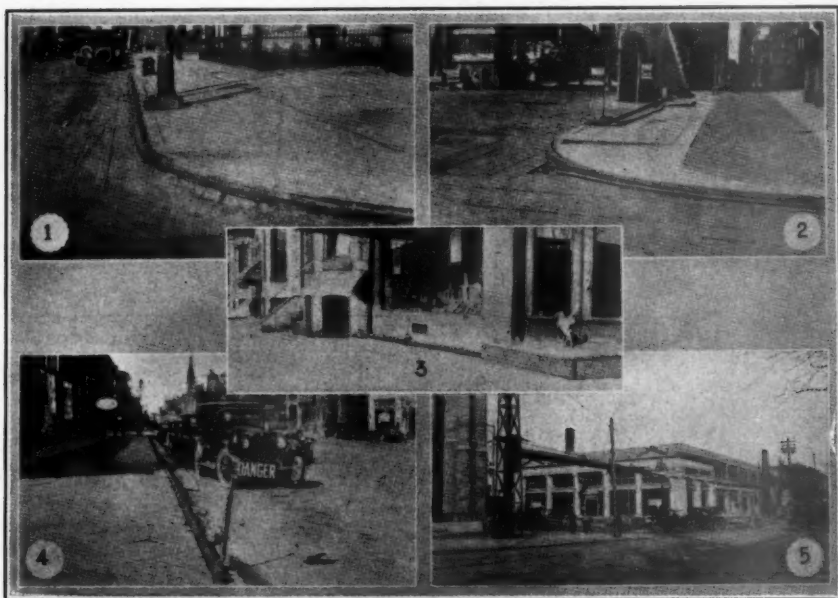
These temporary mains must be laid in many different ways according to conditions along the street and the houses which they supply. The accompanying illustrations show a few of the methods of installing these temporary mains.

Illustration No. 1 shows a temporary main laid in the angle by the gutter and the curb. It is out of the way here and does not present a tripping hazard, so therefore needs no danger lamps to protect it. This is a very good method, but cannot always be followed, as in many cases it would interfere with the subway work.

Illustration No. 2 shows a temporary main laid in the gutter until it gets around the radius curb and clear of the point where pedestrians cross the street. At this point it is brought up on the footway and run along on top of the sidewalk, about three feet in from the curb. This method is not desirable, as it presents a tripping hazard and must have danger lamps placed on it at all times. There are many places, however, where no other method can be used.

Illustration No. 3 shows a temporary main placed against the house line. It is out of the

\*Actual results to a common B.t.u. basis for ease of comparison.  
†Oil reduced to a common B.t.u. basis.



Illustrating Methods of Running Temporary Mains Along Broad Street, Philadelphia, to Avoid Subway Construction Work. See Text for Legend.

way, presents no tripping hazard, and does not have to be lamped. This is the preferable method and the one used where possible.

The matter of lamping these temporary mains presents quite a problem. There are, in the section from Stiles Street to Courtland Street, 140 danger lamps. These were originally of the oil lamp type, shown hanging on the rod in Illustration No. 2. These oil lamps had to be filled and trimmed each day, and this, together with the breakage and quite a number of lamps being taken from the rods, made it a very expensive proposition, considering they would have to be in use for a period of from two to three years.

Joseph McBride, cadet engineer in the Spring Garden District, working on subway work, struck on the idea of having a gas-burning danger lamp attached directly to the temporary main. As a result, the gas danger lamp, shown in Illustration No. 4, was developed and has been installed on the entire temporary main system, replacing the 140 oil lamps that were originally on the main.

These lamps are made up from broken parts of oil lamps, a red globe, bray burner, cock and some  $\frac{1}{2}$  inch pipe and fittings.

The initial cost of a gas lamp is \$1.79 against \$1.57 for an oil lamp, but the maintenance cost is two cents per day per lamp less for a gas lamp. Therefore, in eleven days the gas lamp pays for the excess initial cost, and, as the lamps are expected to be in use for at least two years, the total saving will be \$14.60 per lamp, or, for 140 lamps, \$2,044.00 in two years.

These lamps are lighted and put out by patrolmen. They require no filling or trimming and they cannot be taken from the main. Also, the breakage on these lamps has been far less than the oil lamps. Their use has proved so satisfactory that they will be installed wherever an opportunity presents itself.

Illustration No. 5 shows the main crossing at Broad and Allegheny Avenue.

ROGER W. BABSON, in his latest bulletin of advice to his clients, draws attention to the many opportunities now current for investors in the manufactured gas industry. From the standpoint of economy, Mr. Babson says, gas easily outranks electricity as a heating agent.

# Associations Affiliated with A. G. A.

## Canadian Gas Association

Date of Affiliation—Mar. 25, 1919.  
Pres.—J. J. Humphreys, Montreal Light, Heat & Power Co., Montreal, Que.  
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.  
Conv., Montreal, Que., July 8 and 9, 1926.

## Empire State Gas and Electric Association

Date of Affiliation—Nov. 21, 1919.  
Pres.—E. C. Scobell, Rochester Gas & Electric Corp., Rochester, N. Y.  
Chairman Gas Section—C. C. Atwood, The Brooklyn Union Gas Co., Brooklyn, N. Y.  
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.  
Annual Meeting, 1926.

## Illinois Gas Association

Date of Affiliation—Mar. 19, 1919.  
Pres.—R. E. Chew, Union Gas & Electric Co., Bloomington, Ill.  
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.  
Conv., Chicago, Ill., 1926.

## Indiana Gas Association

Date of Affiliation—April 24, 1919.  
Pres.—H. J. Roach, Northern Indiana Gas and Electric Co., Crawfordsville, Ind.  
Sec.-Tr.—E. J. Burke, Room 1314, Peoples Gas Bldg., Chicago, Ill.  
Conv., 1926.

## Iowa District Gas Association

Date of Affiliation—May 21, 1919.  
Pres.—C. M. Benedict, Des Moines Gas Co., Des Moines, Iowa.  
Sec.-Tr.—H. R. Sterrett, 351 Seventh St., Des Moines, Ia.  
Conv., 1926.

## Michigan Gas Association

Date of Affiliation—Sept. 18, 1919.  
Pres.—B. G. Campbell, Consumers Power Co., Pontiac, Mich.  
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.  
Conv., Mackinac Island, Mich., June 24, 25, 26, 1926.

## Missouri Association of Public Utilities

Pres.—Wiley F. Corl, Community Power & Light Co., St. Louis, Mo.  
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.  
Conv., 1926.

## New England Association of Gas Engineers

Date of Affiliation—Feb. 19, 1919.  
Pres.—H. N. Cheney, Boston Consolidated Gas Co., Boston, Mass.  
Sec.-Tr.—J. L. Tudbury, 247 Essex St., Salem, Mass.  
Conv., Hotel Somerset, Boston, Mass., Feb. 24 and 25, 1926.

## Gas Sales Association of New England

Date of Affiliation—Oct. 1, 1919.  
Gov.—J. J. Quinn, Citizens Gas Light Co., Quincy, Mass.  
Sec.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.  
Monthly Meetings.

## New Jersey Gas Association

Date of Affiliation—April 25, 1919.  
Pres.—H. D. Whitcomb, Public Service Electric & Gas Co., Newark, N. J.  
Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.  
Mid Year Meeting, Walt Whitman Hotel, Camden, N. J., Jan. 22, 1926.

## Oklahoma Utilities Association

Date of Affiliation—June 16, 1926.  
Pres.—R. C. Sharp, Oklahoma Natural Gas Co., Tulsa, Okla.  
Mgr.—E. F. McKay, Oklahoma City, Okla.  
Conv.

## Pacific Coast Gas Association

Date of Affiliation—Sept. 18, 1919.  
Pres.—F. J. Schafer, Southern California Gas Co., Los Angeles, Calif.  
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.  
Conv., Los Angeles, Calif., 1926.

## Pennsylvania Gas Association

Date of Affiliation—April 10, 1919.  
Pres.—Wallace G. Murfit, Bucks County Public Service Co., Newtown, Pa.  
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.  
Conv., 1926.

## Southern Gas Association

Date of Affiliation—May 20, 1919.  
Pres.—S. E. Linton, Nashville Gas & Heating Co., Nashville, Tenn.  
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.  
Conv., New Orleans, La., March 15, 16, 17, 1926.

## Southwestern Public Service Association

Date of Affiliation—September 26, 1923.  
Pres.—Paul E. Nicholls, Galveston Gas Company, Galveston, Texas.  
Chairman Gas Section—H. E. Danner, Houston Gas & Fuel Company, Houston, Texas.  
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.  
Conv., Galveston, Texas, April 13-16, 1926.

## Wisconsin Utilities Association

Date of Affiliation—March 25, 1919.  
Pres.—G. H. Wilmarth, Northern States Power Co., Eau Claire, Wis.  
Chairman Gas Section—S. B. Sherman, Wisconsin Gas & Electric Co., Racine, Wis.  
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.  
Conv., 1926.

## Geographic Divisions

### Eastern States Gas Conference

Date of Formation—April 11, 1923.  
Pres.—W. Griffin Gribbel, John J. Griffin & Co., Philadelphia, Pa.

Sec.-Tr.—R. A. Koehler, Public Service Electric & Gas Co., Newark, N. J.  
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 21 and 22, 1926.



# Employment Bureau

## SERVICES REQUIRED

**GAS COMPANY** operating in the Metropolitan District, New York, offers a permanent position to a thoroughly qualified Street Main Foreman. Address giving experience, salary expected and when services are available. Answers will be considered confidential if desired. Address A.G.A. Key No. 058.

**DESIGNER**—Well known manufacturer of high grade gas burning appliances has a position open for a competent man for experimental work and design of gas stoves, radiant heaters, tank water heaters, etc. Must be a practical man experienced with gases of various kinds and qualities. State fully your training, experience and salary expected. Address A. G. A. Key No. 062.

**OPENING** for Gas Works Chemist with large company in Southern California. Must be experienced, well qualified technical man. Some oil experience desirable. Address A. G. A. Key No. 070.

**LARGE COMPANY** operating in Middle West desires to employ two Industrial Gas Engineers for Industrial Gas Sales and Survey Work. Will be employed on straight salary. State age, salary expected and past experience. Address A. G. A. Key No. 071.

**ENGINEER**—Large operating company desires the services of an engineer with experience in the application of gas and the selling of industrial gas appliances. State age, past experience and salary expected. Address A. G. A. Key No. 072.

**WANTED** by large gas company in middle west, salesman for industrial gas appliances. Address A. G. A. Key No. 073.

**WANTED:** Young college graduates of mechanical and chemical engineering. Positions permanent, good opportunity for advancement. Address A. G. A. Key No. 074.

## SERVICES OFFERED

**WANTED:** Position by a Gas Engineer with twenty-three years' experience in all branches of the gas business and who has had experience in plant efficiencies and gas distribution problems. His connection with a strong operating company would make him a valuable man for a holding or a large operating company owing to his ability to reduce manufacturing and distribution costs. Would prefer position in the East. Address A. G. A. Key No. 193.

**PUBLIC UTILITY EXECUTIVE**, with broad experience in engineering, management and finance desires position. Offers character, integrity and ability with service. Address A. G. A. Key No. 196.

**WANTED**—Position as Manager or Engineer for a gas or gas and electric property by practical Gas Engineer thoroughly conversant with management problems, rates, industrial business development, design, construction and operation of coal and water gas plants, high and low pressure transmission and distribution. Considerable experience with electric power plants and natural gas properties. Technical education and twenty-two years' experience, fourteen years of which have been in gas and public utility work. Address A. G. A. Key No. 197.

**OPERATING ENGINEER** desires communication with a utility property requiring the services of an operating engineer. Property either electric or gas or combined preferably in a medium size city with 25,000 customers or upward. Location preferably north central State or Canada. Position general superintendent or manager. Have had twenty-one years active contact with operating problems of diversified nature in electric, gas, water and telephone utility service as cadet engineer, superintendent of distribution, chief

engineer, general superintendent and manager. Am at present employed. Address A. G. A. Key No. 198.

**WANTED:** Position as manager or superintendent of a coal, water or combination gas plant, by a technical man, thirty-five years of age, with thirteen years' all around gas experience. Services available upon reasonable notice to present employer. Address A. G. A. Key No. 199.

**POSITION**—Sales Manager of new business on Domestic, Hotel and Industrial appliances, desires similar position with promising future. Fourteen years' experience from shop through all commercial departments of one of the largest Utility Companies on the East. Thirty-six years old. Single. Services available in two weeks. Address A. G. A. Key No. 201.

**TECHNICAL MAN**—(34) desires position as manager or superintendent of gas plant in city of 20,000 to 50,000 population; have had twelve years' experience in gas business of which last six have been as manager of gas properties; experience as superintendent of high and low pressure distribution; business and technical education; married; available immediately; references from present and former employers; prefer South. Address A. G. A. Key No. 202.

**POSITION WANTED**—High grade specialty salesman, specializing in sales of gas-fired boilers and automatic water heaters for past 15 years; will be open for sales position with manufacturer or gas company October 1, 1925; thoroughly conversant with all phases of water heating and house heating; best of references from past and present employers together with details of ability will be submitted; road experience, no objection to travel. Address A. G. A. Key No. 203.

**WANTED**—Position as manager of relatively small gas company or as engineer of larger property. Coal or water gas. Young, technically trained engineer (chemical and mechanical) with 10 years' unusually broad experience in all phases of industry, including manufacture, commercial and industrial, wishes to locate with property in need of man who can show the kind of results that mean increased net earnings. Address A. G. A. Key No. 204.

**WANTED**—Am open for position as appliance salesman with appliance manufacturer, experience covers over fifteen years in the sale of gas ranges, automatic water heater and heating appliances, or as manager of appliance sales department with a gas operating company, experience includes executive and technical training. Married. All references. Address A. G. A. Key No. 205.

**A COLLEGE GRADUATE**, twenty-six years old, unmarried, three years' experience in operating plant with maximum daily send-out of 2600 M; fifteen months in charge of smaller plant and distribution, would like position with advancement. Address A. G. A. Key No. 206.

**AN ENGINEER** experienced in the development of large volume commercial and industrial gas business is open for position as Utility Manager or department head. Record and references on file with A. G. A. Address A. G. A. Key No. 207.

**MECHANICAL ENGINEERING** graduate, two years by-product coke oven operation, seven years operating and maintenance 40,000 horsepower steam and gas engine driven natural gas compressors open for permanent connection. Address A. G. A. Key No. 208.

**EXECUTIVE** thoroughly experienced in coke oven and water gas manufacture, distribution of gas, sale of metallurgical and domestic coke, and engineer of wide experience with ability to deal with public officials and general public. Now open for engagement. Best of references. Forty-two years old and married. Address A. G. A. Key No. 209.

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